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ABSTRACT

The primary purpose of this study was to investigate the perception of two-year and four-year college students, faculty, and chief administration officers related to current articulation practices. The study also aimed to determine the desired components for a successful articulation and transfer system, and to identify any significant differences between current and ideal articulation practices. The study also investigated the feasibility of an articulation officer whose duty is to oversee transfer procedures and a statewide course numbering system. The author used models from similar studies to design a survey instrument, which was then validated by a panel of articulation experts. The author also employed a pilot study using a two-year and a four-year institution in Arkansas in 1999. A total of 378 two-year students, 125 four-year students, 128 two-year faculty, 70 four-year faculty, and the entire population of 9 four-year and 23 two-year chief academic officers (CAOs) responded to surveys. The students, faculty, and staff all indicated that a statewide course numbering system would benefit the articulation process. Students were in favor of a statewide official, two-year faculty and CAOs were not sure, and four-year faculty and CAOs objected. Includes historical background of articulation practices in the U.S. Research instruments appended. (Contains 55 references.) (NB)

**PROGRAM TO PROGRAM ARTICULATION: PROGRESS, PERCEPTIONS, AND
PROCEDURES FOR ARTICULATION FROM TWO-YEAR PROGRAMS
TO FOUR-YEAR PROGRAMS**

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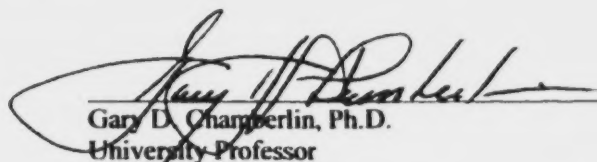
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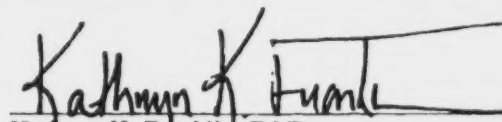
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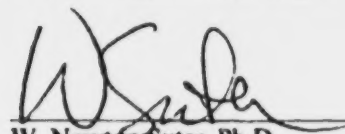


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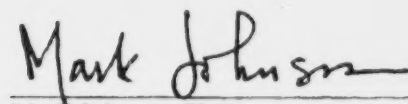
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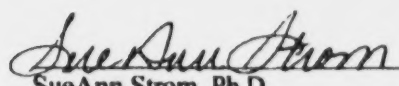


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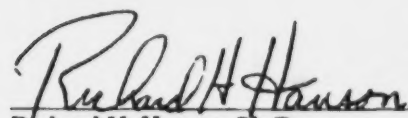
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ABSTRACT

The primary purpose of this study was to investigate the perceptions of two-year and four-year students, faculty, and chief academic officers related to articulation practices in existence. Additionally, this study was designed to determine the desired components for a successful articulation and transfer system and identify any significant differences that exist between current and ideal articulation practices. Furthermore, this study investigated the feasibility for an articulation officer to oversee transfer procedures and a statewide course numbering system.

To accomplish the goals of this study, after review of literature on articulation and transfer practices, six research questions were developed. Survey instruments, which were validated by a panel of experts in articulation, were designed using models from similar studies in Tennessee (Freeman, 1996) and Alabama (Wallace, 1994), and a pilot study using a two-year and a four-year institution in Arkansas in 1999. The surveys contained questions regarding common articulation practices and policies, current perceptions about articulation and transfer, and current versus ideal articulation practices. A section of the survey for faculty and chief academic officers was designed so that respondents marked each articulation practice twice—once to reflect present practices and once to reflect ideal practices from their viewpoint. The section was divided into categories of administrative issues, curriculum and instruction issues, interinstitutional relationships, and evaluation issues. Six two-year and four four-year public institutions in Arkansas were chosen for the study. A total of 378 two-year students, 125 four-year students, 128 two-year faculty, 70 four-year faculty, and the entire population of nine four-year and 23 two-year chief academic officers responded to surveys for this study.

Basic descriptive statistics were used to compare the sample to the population and analyze the data. Paired samples *t*-tests were used to compare current articulation practices with ideal articulation practices on the faculty and CAO surveys.

Primary articulation concerns based on the student sample were: Knowing what courses to take at the four-year level, transferring without loss of credit, and obtaining financial aid at the transfer institution. A four-year plan of study would be helpful in the opinion of the majority of students.

Surveys indicated every public institution of higher education in Arkansas has some form of articulation agreement. Core curriculum, department-to-department, and course-to-course are the types of agreements that currently exist from the viewpoint of the faculty and CAOs although the core curriculum articulation, which was legislated by the state, is the only type that is consistent.

A significant difference ($p < .05$) between the current practices and the ideal practices was found in 10 of the 22 articulation and transfer characteristics from the viewpoint of two-year and four-year faculty and chief academic officers. Further, a significant difference ($p < .05$) was found in 20 out of the 22 articulation and transfer characteristics when comparing two-year faculty, four-year faculty, and two-year CAOs.

The students, faculty, and CAOs indicated that a statewide course numbering system would benefit the articulation processes in institutions of higher education. However, on the issue of a statewide official to oversee transfer issues, students were in favor of a statewide official, two-year faculty and two-year CAOs were not sure that a statewide official would help the transfer process, and four-year faculty and four-year CAOs clearly objected to a statewide articulation official.

This study lays the groundwork for future studies in articulation and transfer procedures and policies, provides a review of the literature, summarizes the data obtained from the study, provides conclusions drawn from the study, and gives recommendations for future research.

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Dedication

To my husband, Louie, who has always been my "Knight in shining armor."
He has always encouraged me to pursue new educational goals and has given sacrificially to help me achieve this milestone. Without his support, advice, patience, and love, this dissertation would not have been possible. I also dedicate this to my son, Michael, and to my daughters, Tammy, Elizabeth, and Crystal who lovingly endured the loss of some precious family time for me to pursue this educational goal. My family has brought great joy into my life, and their love has helped me realize how fortunate I am to have such a special family.

CHAPTER I

INTRODUCTION

Overview of Articulation in the United States

The students in American higher education are diverse, and they cannot be categorized easily (Cohen, 1996). They often arrive at the higher education campus because of circumstances or obstacles. Many start in community colleges and transfer to universities, some start at universities and transfer to community colleges, and yet others begin at both types of institutions simultaneously. In addition, they attend in sporadic fashion and switch programs repeatedly (Cohen, 1996).

Since the early philosophical discourse on the community college movement, transfer and articulation practices in community colleges have expanded into a complex enterprise involving national organizations, legislators, federal agencies, accrediting bodies, state agencies, and administrators and faculty from all education sectors. (Rifkin, 1996, p. 77)

In a document edited for the American Association of Community and Junior Colleges, Bender (1990) included the following statement as a reason why the phenomenon of transfer and articulation is misunderstood:

The nation's 50 states are dissimilar in size, geography, economy, demographics, and postsecondary education delivery systems, yet they are often described as the same in generalizations or national norms reported by researchers, policy-makers, and the national and local press. The transfer and articulation phenomenon is

especially vulnerable to such fallacious reporting, which masks significant changes taking place in postsecondary education. (Bender, 1990, p. ix)

The American job market has changed drastically in the past 20 to 30 years. Society has gone from a production-driven economy to a service-oriented economy competing globally for business. These dramatic changes have required a more highly educated work force (King, 1994).

During the fall of 2000, there were 5,638,000 students enrolled at 1,049 public two-year colleges (Chronicle of Higher Education, 2000). Most of the students attending two-year colleges are part-time students and many are involved in on-site training programs (Barkley, 1993). Approximately 1.7 million students indicated that their primary purpose for attending the community college was to transfer to a baccalaureate granting institution (Susskind, 1997). Projections of public two-year college enrollment show a continual increase through 2007 (Chronicle of Higher Education, 2000).

There has been an increase in the number of applied associate, associate of science, and technical certificate programs. As these two-year graduates complete these programs of study, a desire to continue their education has prompted concern and state attention for the need for articulation agreements that will allow for transfer credit for the courses taken at the two-year institution. The rigor of many contemporary technical and paraprofessional programs is questionable from the standpoint of the four-year faculty. Demands for baccalaureate institutions to offer articulation agreements for applied associate degree programs in health, business, technologies, and service fields are increasing across the country.

Much literature questioning the intent and quality of community college education exists. McGrath and Spear (1991) contend that an educational crisis exists because of the lack of academic rigor in the community college classroom. Brint and Karabel (1989) argue that the community college is not a springboard to four-year institutions but manages ambition and diverts students from four-year colleges. The January 1993 issue of The Journal of Chemical Education featured an editorial that contained remarks that students beginning at a community college may experience a lesser quality of education than those at four-year institutions. Community colleges are constantly defending their transfer effectiveness even though there are no reliable statistics to support the accusations against them. In fact, students who transfer do as well as, or better than, students who began their college careers at four-year institutions (Barry & Barry, 1992, Kintzer & Richardson, 1986, Mellander & Robertson, 1992). Proponents of community colleges emphasize the needs of the learner. They recognize that the majority of their student population traditionally has been excluded from participating in higher education, and they support an open-door policy (Gleazer, 1980).

Patterns of student flow are not linear, they swirl. Students drop in and out of community colleges; they take courses concurrently at both types of institutions; and they transfer frequently (Susskind, 1997).

The term community college often is the generic descriptor found in the popular press as well as publications of national organizations to refer to all types of public two-year institutions as though they are one. This is misleading in regard to transfer and articulation issues, particularly when national norms or averages are reported. For example, New Hampshire has a system of six vocational/technical colleges, while

Alabama has technical colleges, junior colleges, and community colleges making up its system of public two-year institutions. West Virginia has stand-alone community colleges and community colleges within four-year state colleges, while Indiana has branch campuses of universities, vocational/technical colleges, and a community college: Vincennes University. Georgia and Tennessee have both junior colleges and technical institutes, while Connecticut, Minnesota, and Nebraska have community colleges and technical colleges. Ohio has branch campuses, community colleges, and technical colleges. Developing one articulation policy for a single model to cover all these types of two-year institutions is not practical (Bender, 1990).

State systems include consolidated governing boards (Alaska and Hawaii) or boards of regents (Georgia and Massachusetts) responsible for all public postsecondary institutions, and others (Pennsylvania, Vermont, and Maine) have little or no system authority at the state level (Bender, 1990).

An important difference among institutions is the individual differences in traditions, mission, values, and philosophy in relation to transfer and articulation. Florida is credited by many authorities as exemplary in the comprehensiveness of its transfer and articulation policies and practices (Bender, 1990). "Florida's community college system is the most productive in the nation, with nine of the top 20 producers of associate degrees in the nation" (Florida Community College System, 1999-2000, p. 1). Miami-Dade Community College is nationally recognized as the top producer of associate degrees. A 13-member State Board of Community Colleges (SBCC) includes 12 members appointed by the Governor, approved by the Senate, and the 13th member is the Commissioner of Education. SBCC coordinates and oversees the operation of the 28

locally-controlled community colleges (210 local trustees) and directs the staff of the Division of Community Colleges (Florida Community College System, 1999-2000).

California functions from a different perspective. The result is a bottom-to-top authority flow involving voluntary participation where the legislature is encouraged to fund incentives or pilot projects in fostering transfer and articulation practices. The University of California System derives its authority from the constitution (similar to the University of Michigan, the University of Minnesota, and Ohio State University) and therefore can be as autonomous or cooperative as it wishes.

In the Middle Atlantic and New England states, historic traditions and values reflect a strong institutional autonomy. University systems are sparse in states such as Pennsylvania, Virginia, Connecticut, and Vermont, where state planning and coordinating agencies serve as advisory bodies.

The 1989 General Assembly in Arkansas charged its State Board of Higher Education with developing a minimum general education core for baccalaureate degrees to insure transfer among all state institutions. The 1989 Ohio Legislature required the Board of Regents in that state to establish a study commission which was to make recommendations to the governor regarding implementation of a statewide student credit-hour transfer agreement to address the articulation problems between two-year and four-year institutions (Bender, 1990).

Any attempt by the states to impose a system of public higher education risks a formidable confrontation with history (Robertson, 1996). Autonomy, and the delegation of admission and curricular decisions to departments and faculty, were two factors cited by Knoell (1990) as mitigating against enforceable statewide transfer policies. Twenty-

five years ago there was little state involvement in transfer and articulation. Ten years ago, according to a Ford Foundation survey, all 50 states had some form of higher education coordinating authority (Knoell, 1990).

Mobility is a common human phenomenon. This is true among students in higher education. For several reasons—a change in major, a family move, the economic and familial necessity of attending college close to home—students are frequently faced with the need to obtain their collegiate education from two or more institutions (Bender, 1990, p. 7).

This quote is taken from the policy of the University of Wisconsin System (a governing board) and exemplifies the necessity of a study which focuses on program-to-program articulation.

According to King (1994), education should be a seamless web, an interconnecting system where qualified students can move systematically from one educational level to another or from one institution to another without unnecessary roadblocks being put in their way. Students who enter two-year institutions need guidance as they complete their work at the two-year college and begin their major work at the four-year university. Good articulation of courses and programs saves students time and money because it eliminates the need to repeat courses. Just as important, it prevents students from becoming discouraged when their hard work at one institution is not recognized at another (National Institution of General Medical Sciences, 1999).

The program-to-program articulation provides for a student transition from a two-year college to a four-year university with minimum duplication of courses and without

loss of credits while providing a continual sequence of learning experiences to students in their chosen field of study.

While the practice of articulation has been well documented in the literature, prescriptions for how to accomplish a good articulation agreement are elusive (Palmer, 1995). Dougherty (1994) reviewed articulation transfer agreements from a limited amount of research available, and noted that transfer rates for California community colleges that had established transfer centers were higher than the transfer rates at colleges without these centers. This reinforces the conclusion that focused administrative efforts to establish articulation agreements and guide students along prescribed transfer curricula offer a preferable alternative to allowing students to find their own way on a hit-or-miss basis.

Even when prestigious funding agencies have supported well-publicized articulation projects, such as the Ford Foundation's Urban Community College Transfer Opportunities Program (UCCTOP), the lack of data on student flow from community colleges to four-year colleges (along with the difficulty of drawing causal relationships between college interventions and student progress), has made it difficult to assess outcomes (Center for the Study of Community Colleges, 1988).

The need for articulation and inter-institutional collaboration has become a priority and the methods for how this will be accomplished vary from state to state. There has been a bipolar preference on state-versus-institutional implementation and institutional-versus-student data. The nature of the personnel assisting in the implementation of the process and the criteria for effectiveness are issues of concern (Knoell, 1990).

It is time to take a closer look at the articulation practices and determine a model which students, faculty, and administrators can use to bridge the transition between two-year and four-year institutions.

Problem Statement

The problem of this study was to investigate the perceptions of two-year and four-year students, faculty, and chief academic officers related to articulation practices in existence. Additionally, this study was designed to determine the desired components for a successful articulation and transfer system and identify any significant differences that exist between current and ideal articulation practices. Furthermore, this study investigated the feasibility of an articulation officer to oversee transfer procedures and a statewide course numbering system.

Research Questions

1. As students enter the two-year institutions and develop a program of study, what are their primary perceptions and concerns regarding transfer and articulation procedures?
2. What types of articulation procedures are currently being implemented in two-year and four-year public higher education institutions from the viewpoint of faculty and chief academic officers?
3. What ideal aspects of developing program-to-program articulation agreements should be included to gain the support of faculty and chief academic officers?
4. Is there a significant difference between present articulation practices and ideal articulation practices as perceived by faculty and chief academic officers?

5. Would a statewide articulation officer be a desirable addition to aid in the articulation efforts?
6. Would a statewide course numbering system benefit the articulation processes in institutions of higher education?

Significance of the Study

Based on the findings of this study, students who choose to begin their postsecondary education at a two-year institution to will be able to better identify articulation characteristics, which will allow them to transfer without loss of credit, as they continue their goal to complete a baccalaureate degree. In addition, society as a whole will be helped as additional people with higher education enter the workforce. This study gives information for college personnel on the role and scope of program-to-program articulation and informs and assists in ways to achieve better articulation agreements. Using a representative sample, it discusses the issues surrounding the articulation practices currently in place, identifies the types of articulation practices which have proven most successful, and highlights questions and concerns surrounding the transferability of courses and programs from the two-year level to the four-year institutions. This study supplies another level of understanding of the importance of a smooth transition from the two-year to four-year programs. During the process, this study determined the feasibility of having a state official to oversee the types and processes of articulation. The concept of a statewide course numbering system is addressed in this study including the possible operational challenges.

Limitations and Delimitations of the Study

Limitations

This study was limited to the information made available through the returned surveys from each participating institution. The chief academic officers are involved in the process of articulation and they have ideas of how the process should work in their arena, therefore, viewpoints from their perspective could be somewhat biased. There was a degree of concern that anonymity might have been a consideration because the CAO surveys could be returned via e-mail, however CAO surveys are conducted through e-mail on a routine basis, therefore the integrity of the research was not considered threatened. This study can not be generalized to every transfer situation, however, because structures are similar in each state, it could have definite implications nationwide.

Delimitations

This study included only students, faculty, and chief academic officers in Arkansas two-year and four-year public post-secondary institutions. The data was collected through one survey instrument for each category. The study concentrated on perceptions of issues regarding the transfer process within the institution and on perceptions of the content of an ideal program-to-program articulation system.

Definition of Terms

2 + 2 Programs: A program of study in which a student begins at a two-year college for the first two years and continues at a four-year institution for two more years.

2 + 2 + 2 Programs: A program of study in which a student begins in high school and works on a program for two years, continues to a two-year college for two years, and later to a four-year institution for two years.

AACC: American Association of Community Colleges

ADHE: The Arkansas Department of Higher Education.

ADHECB: The Arkansas Department of Higher Education Coordinating Board

Articulation: Systematic efforts, processes, or services intended to ensure educational continuity and to facilitate orderly, unobstructed progress between levels or segments of institutions on a statewide, regional, or institution-to-institution basis.

Associate of Arts Degree (AA): The universally accepted credential for programs designed to prepare students for upper-division baccalaureate study.

Course-to-Course Articulation: The process for aligning courses that are offered by two or more institutions.

Native Students: Those students who begin at the institution in their freshman year.

Program-to-Program Articulation: An articulation agreement in which an entire program of study at the two-year level will transfer to the four-year level to continue in the same program of study for completion of a baccalaureate degree.

Student Flow: A continuum from secondary school through the two-year institution to the baccalaureate degree and beyond.

Transfer: The process for reviewing and admitting applicants for advanced standing.

Transfer Students: Those students who begin their post-secondary education at a two-year institution who seek to move from the two-year college to another expecting credit recognition for course-work successfully completed and expecting to be treated equitably with all other students.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The junior college, conceptualized as providing the first two years of university education, was the major antecedent of the modern community college. Many states created their community college systems to serve as preparatory institutions to their college and university system (Barry & Barry, 1992).

The first junior colleges, established in the late 1800s, were privately supported and operated. By 1900, there were about eight junior colleges—all private—with an enrollment of about 100 (American Association of Community Colleges, 1967). According to most historians of the two-year college movement, the oldest publicly supported junior college still in existence was established in 1901 at Joliet, Illinois (American Association of Junior Colleges, 1967).

According to Salzman (1992), the community college has evolved from the junior college, a creation usually credited to the former president of the University of Chicago, William Rainey Harper. In 1900, Harper envisioned the junior college as preparation for the last two years of university study (Salzman, 1992).

When higher education was viewed as a privilege, society accepted as appropriate the tradition of institutional autonomy and the central role of a faculty in determining the content and performance requirements of each degree program (Bender, 1990). Societal attitudes have changed since the 1960s, with higher education deemed a right as well as a requirement for our nation to compete in a global society. The primary players in

articulation efforts before the 1960s were admissions officers and registrars. During the 1980s, the primary players in articulation efforts were the transfer/articulation officers. In the 1990s, faculty-to-faculty groups have been the key players in articulation agreements (Bender, 1990).

The increased activity of legislatures over the past few years makes it apparent that the absence or failure of local voluntary articulation will be met by state-level mandatory policies (Bender, 1990). These legislative mandates will reflect a concern for the students' interest, sometimes to the detriment of traditions or values cherished by colleges and universities (Bender, 1990). Legislative testimony often is directed toward the unfairness to transfer students and to taxpayers when both must pay the price of repeating course work already successfully completed or when students are required to take more courses than the native students in the same degree program (Bender, 1990). National calls for educational reform in the 1980s resulted in the strengthening of academic programs with institutions meeting demands for quality enhancement, reappraisal of general education requirements, and higher test scores and GPAs. Minority students are disproportionately enrolled in two-year colleges and there is a demand from the public and its elected representatives that transfer and articulation result in increased representation of minority groups in the upper-division baccalaureate institutions.

History of Articulation in the United States

1940s

By the 1940s, the community college had evolved into an institution with two purposes: it offered academic courses as preparation for the young people in a particular locality who planned to attend a university and vocational training for those who did not want to attend a four-year institution (Salzman, 1992). The community colleges, and their faculty, grew increasingly responsive to the needs and interests of adult learners, who required different teaching techniques and more flexible scheduling. In addition, community colleges rapidly added remedial and noncollegiate courses and became the second-chance institutions for students either denied access to, or unable to succeed at, four-year institutions. In the process, faculty became increasingly aware of the necessity for articulation agreements to facilitate the transfer process (Mellander & Robertson, 1992).

1950s

The evolution of articulation received a boost about the time of Sputnik (1957) when a national committee was created by the American Association of Community Colleges and the Association of American Colleges. In 1958, a Joint Commission on Junior and Senior Colleges was established when the American Association of Collegiate Registrars and Admissions Officers joined the original committee. Bogart and Murphey (1985) described the function of the joint committee as one, which was to develop the guidelines necessary to facilitate the transfer of students between two-and four-year institutions.

1960s

The United States Office of Education made the first of two grants to the Center for the Study of Higher Education at the University of California, Berkley, in 1960 for a comprehensive national study of the junior college transfer function (Knoell, 1990).

Shortly after the completion of the study, Knoell and Medsker (1965) published a report on the study entitled: From Junior to Senior College: A National Study of the Transfer Student.

The major functions of the junior college in the 1960s were general education, transfer, and preparation for entry-level employment with remediation offered for those not quite ready for college-level work (Knoell, 1990). The student body was formed from high school graduates from families generally above the poverty level. A clear distinction was made between transfer and vocational preparation. This distinction was necessary because of a federal requirement that vocational certificate programs be considered "terminal" as a condition of funding. Junior colleges had open admission policies, and most did not make special efforts to recruit students from ethnic minority and other disadvantaged groups.

With the idea of community colleges came the word "comprehensive" (Knoell, 1990). Continuing or community education for those not seeking degrees was now a major function. Developmental or transitional programs helped students with educational deficiencies. Different types of associate degrees began to distinguish between programs--"arts" for transfer and "applied science" for occupational programs (Knoell, 1990). Equal educational opportunities and affirmative action programs attracted the

previously underrepresented groups of students, including those whose native language was not English.

1970s

The proportion of community college students transferring to four-year institutions dropped considerably during the 1970s, a situation leading to accusations that the community colleges did not prepare their students sufficiently well for transfer (Cohen, 1989). As a result, state and federal policies began to emerge.

In 1972, the federal Higher Education Act provided for the establishment of boards or commissions to help plan and coordinate all post-secondary education. States established what were then known as "1202 Commissions" (Knoell, 1990, p. 7) for planning and coordination, or designated an existing state board to meet federal requirements.

1980s

The 1980s may be described by history as the decade when transfer and articulation shifted from the hands of local educational policy-makers to state-level public policy-makers (Bender, 1990). The 1980s produced federal and state mandates for public colleges and universities to be more accountable by demonstrating measurable increases in student skills and knowledge attainment between college entry and exit (Henry & Smith, 1994). In 1984, Walton published the results of a national survey in her monograph entitled: Articulation: Transfer Agreements, Minimum Grades Acceptable on Transfer Courses, and Transferability of Associate Degrees. The purpose of this study was to determine the policies, practices, and procedures for transferring undergraduate academic credit. The following is a summary of her findings:

A mail survey of 1,000 accredited two- and four-year institutions of higher education nationwide examined the topics of transfer agreements, minimum grades acceptable on transfer courses, and transferability of associate degrees. Responses from 835 of the institutions from the stratified random sample indicated an interest in the questionnaire content, which also included questions concerning computer applications to the task of evaluating transcripts for credit transfer. Of the responding two-year colleges, 80.6% have written agreements with four-year institutions concerning transfer of credit, with 23.4% of the two-year colleges having course transfer lists, 37.7% having articulation agreements, and 19.4% having both course transfer lists and articulation agreements (p. 169).

Of the 527 responding four-year institutions, 52.2% have no such written agreements, 20.7% have articulation agreements with two-year colleges, 20.1% have written agreements in the form of lists of courses indicating transferability and/or equivalency, and 7% have both articulation agreements and lists of courses (p. 171).

In 1985, the Ford Foundation made a grant to the California Postsecondary Education Commission for another national study of current policies, practices, and programs. The project staff selected 11 states for site visits: Arizona, California, Colorado, Florida, Illinois, Minnesota, New York, North Carolina, South Carolina, Texas, and Washington. Interviews were conducted of state-level personnel responsible for postsecondary policy determination, administration, coordination, and research in the 11 states. The qualitative and quantitative data were analyzed regarding statements of policy and practice, program descriptions, research findings, and statistical reports related

to transfer and articulation. Data from the study resulted in recommendations including suggestions that legislative policy should provide for state oversight for transfer issues and provide statements of assurance to students that opportunities be made available for transfer of credits toward a baccalaureate degree. Other recommendations included consistency of treatment of transfer students should be reflected in policies, faculty should have major responsibilities for developing articulation agreements, transfer programs and policies should be reviewed and assessed regularly, transfer students should have the same opportunity as native students to be accepted into advanced study programs, transfer information should be made available to faculty, grievance procedures should be available, and a data base of transfer students should be established and easily accessible (Knoell, 1990).

In 1989, a study commissioned by the Board of Directors of the American Association of Community and Junior Colleges resulted in a report by Bender (1990) entitled: Spotlight on the Transfer Function: A National Study of State Policies and Practices. The report included a content analysis of documents and reports of state-level policies representing legislative mandates, executive orders, regulations, and studies of state officials from most states. Also included in the report was a case study of successful transfer and articulation in which it was discovered that "dedicated individuals are the true source of the successful practice, not policies or mandates" (Bender, 1990, p. vii).

Also, in 1989, at least 13 states considered bills or passed resolutions calling for action on transfer or articulation issues (Bender, 1990).

Oregon House Bill 2913 directed the State Board of Higher Education and the State Board of Education to cooperatively develop general education requirements enabling associate of arts graduates of Oregon community colleges to meet lower-division general education requirements of four-year public institutions (Bender, 1990). A subsequent charge from the legislature (July 10, 1987) required the joint committee of the two state boards to (1) propose a set of general education requirements for transfer students; (2) establish a common course numbering system for lower-division courses offered by institutions; and (3) propose systems and procedures that insure the enforceability of the agreements reached (Bender, 1990).

1990s

A variety of transfer practices were prevalent in the 1990s. They included written articulation agreements, transfer counselors, and course equivalency guides. Other strategies often cited to help students transfer included an articulated core curriculum, guaranteed admissions to four-year institutions, transfer centers, and computerized course transfer information services (Terzian, 1991).

In 1990, Knoell published a report of the findings of the 1985 study in a book published by the American Association of Community Colleges and California Postsecondary Education Commission entitled: Transfer, Articulation, and Collaboration: Twenty-Five Years Later. In the report, Knoell found that during the lapse of time many junior colleges became "community" colleges which were characterized as comprehensive educational institutions and were seen as full partners of higher education and not as "high schools with ashtrays" (Knoell, 1990, p. 1).

Bender (1990) proposed in his report to the AACC that 1991 be designated the "Year of Transfer and Articulation." Specific areas to be addressed were: (1) the transfer function and opportunities for underrepresented ethnic minority groups; (2) the transfer function and career education programs; and (3) moving from articulation to collaboration programs. The AACC was to institute a program of identifying and reporting exemplary transfer and articulation practices and state legislatures were requested to require statewide reports on transfer and articulation activities to insure that legislative intent and priorities for fairness to students and taxpayers were achieved. It was requested that legislatures provide funds for the development of comprehensive student data systems and insisted upon all institutions sharing information among and between institutions and for the public. Finally, it was recommended that state legislatures determine whether state financial aid programs were being violated by institutional practices or requirements of accrediting agencies that would require comparable corrective action as recommended for Congress at the national level (Bender, 1990).

2000s

State-level interest in admission and articulation seems to be on the increase. Colorado, Florida, Illinois, Washington, and Minnesota provide examples of state-level agencies that have been directed by their legislatures to establish policies relating to the flow of undergraduate students between and among the institutions they coordinate. Florida appears to be preeminent among the states with respect to the scope and depth of state-level policy making by the State Board of Education at the direction of the legislature (Knoell, 1990). On March 3, 2000, the State Board of Community Colleges in

Florida adopted and published Guidelines for Concurrent-use, Articulation Agreements to establish procedures for reporting articulation agreements among the state's institutions. In Illinois, the state legislature directed the Board of Higher Education to adopt an admission policy for freshmen with baccalaureate degree objectives that emphasizes high school preparation in academic subjects for those entering transfer programs in community colleges or degree programs in the public universities. In Washington state, the legislature has given the responsibility of policy making in the area of articulation to their Higher Education Coordinating Board. The development of policies to be proposed to the Board is under the auspices of the voluntary Washington Council on High School-College Relations. The Council is the key group that facilitates the flow of community college students to four-year institutions in Washington. Minnesota offers an example of a legislature delegating responsibility that is in turn delegated to the public institutions. Its Coordinating Board for Higher Education has statutory authority for monitoring credit transferability, but articulation activities involving the community colleges and the state's two public university systems appear to be independent of legislative or board mandates.

History of Articulation in Arkansas

The 1989 General Assembly in Arkansas charged its State Board of Higher Education with developing a minimum general education core for baccalaureate degrees "which shall transfer freely among all state institutions" (Bender, 1990, p. 6).

In 1990, the Arkansas Higher Education Board approved the 35-hour State Minimum Core (SMC), a standard core of general education courses transferable among the state's public institutions.

In July 1994, the Arkansas Higher Education Council (AHEC) presented a resolution providing for transfer of a 46-hour general education core of courses:

RESOLVED, That the State Board of Higher Education commends the Arkansas Higher Education Council (AHEC) for the spirit of cooperation reflected in the general education articulation document to which all the state higher education institutions have acceded. FURTHER RESOLVED, That the State Board endorses the substance of the AHEC transfer agreement and encourages the institutions to continue to work with the State Board to ensure transferability of coursework and to maintain consistent and high-quality educational offerings statewide (Agenda Item No. 22, October 21, 1994).

The Agenda Item Number 22 of the Meeting of the State Board on October 21, 1994 stated, "The State Board of Higher Education has taken an active part in efforts to promote articulation and to facilitate transfer of college credit. The State Board has promoted institutional participation in transfer consortia and has encouraged institutions to pursue individual articulation pacts" (p. 22-23).

As a follow-up to the State Board legislation, Charles Dunn, Chair of the Presidents and Chancellors Committee, wrote a letter to all presidents and chancellors in Arkansas regarding a report published by The American Council on Education (ACE) entitled: At What Point Do Community College Students Transfer to Baccalaureate-Granting Institutions? The report used data from 15,000 community colleges in 13 states and stated that "37 percent of transfers earned an associate's degree prior to transfer, 57 percent earned at least 61 semester hours prior to transfer, and 75 percent accumulated more than 48 semester hours prior to transfer" (Dunn, 1994, p. 1). The ACE study

provided several recommendations including a statement that two-year and four-year colleges should reconsider their mechanisms for student transfer and program articulation. Dr. Dunn stated that he believed that "we have made a great deal of progress in this area through the adoption of the articulation agreement" (Dunn, 1994, p. 1).

In 1997, Fred B. Russell, Dean of Enrollment Services at the University of Arkansas at Fayetteville and Tom Gattin, President of ArkACRAO (Arkansas Association of Collegiate Registrars and Admissions Officers) sent a letter to all Arkansas presidents and chancellors regarding an Arkansas common course numbering system. The letter was an invitation for other institutions to participate in a common course numbering matrix. At the time of the letter, 10 institutions participated in the endeavor. Guidelines and forms were included in the letter (Russell & Gattin, 1997).

In April, 2000, Dr. Steve Floyd, Deputy Director for the Arkansas Department of Higher Education, sent an e-mail to all chief academic officers in the state at both two-year and four-year institutions, which asked for articulation information. The request was to "list any college or university, two-year or four-year, in-state or out-of-state, with which you collaborate on offering degree programs and/or courses either on your campus or on the campus of the other institution" (Floyd, 2000, p. 1). This request was for a power point presentation on higher education, which was to be shown to legislators in May 2000. All 10 four-year institutions responded and 19 of the 23 two-year institutions responded. The 10 four-year institutions all had collaborative efforts in-state; five had collaborations out-of-state; and three had efforts abroad. Of the 19 two-year institutions, all had in-state collaborations; one had out-of-state; and one had efforts abroad. This information indicated that much has been done in the way of articulation in various

degrees at the colleges and universities in Arkansas, but that involvement has been initiated by personnel at the individual colleges and not as a state-wide effort.

Articulation Policies and Practices

Historically, two- and four-year college transfer and articulation concerns were primarily an institutional rather than a state concern. Now, nearly every state can certify it has a policy statement on transfer of credits for students moving from two-year to four-year institutions (Bender, 1990), however the Knoell (1990) report indicated striking differences in articulation policies and practices among the states. These differences include not only how policies and practices are established, but also their degree of selectivity, specificity, and uniformity.

Statewide articulation policies that are applicable to all public institutions are generally legislatively mandated, but some states have a history of voluntary articulation structures that predate legislative intervention in this area. Statewide agreements are difficult to establish with any significant level of specificity because of differences in mission, selectivity, and demand for access to the various four-year institutions in any state (Knoell, 1990). A voluntary, but state-supported, Articulation Council of California has been operating for more than 65 years under several different organizational structures, none of which has yet been established in legislation. Council membership is drawn from the various systems or segments of California public and private higher education that provide financial support to staff the Council's activities and personnel to participate on committees and task forces. The Council does not report or make policy recommendations to any state-level governing or coordinating board or agency and is

thus largely dependent on voluntary compliance with any actions taken by its executive committee. The Articulation Council of California reaches nonbinding agreements that are, in effect, guidelines concerning articulation of curricula.

The Academic Senate of the California Community Colleges (1998) prepared a paper that explained the purposes and background of the California Articulation Number (CAN) System, a cross reference course identification system for lower-division, transferable, major preparation courses. The CAN System is based on course articulation and allows each campus to retain and use its own course numbers, prefix numbers, and titles and then adds the appropriate prefix using CAN when it has qualified the course through written articulation (Academic Senate of the California Community Colleges, 1998).

In North Carolina, the Joint Committee on College Transfer Students is a voluntary organization sponsored by the North Carolina Association of Colleges and Universities. The 12-member committee is appointed by the University of North Carolina, the State Department of Community Colleges, and the Association of Independent Colleges and Universities, and it includes four ex-officio members from the appointing bodies and the past chair of the committee (Knoell, 1990). It is staffed by the University of North Carolina general administration, which published Guidelines for Transfer Recommendations of the Joint Committee on College Transfer Students (1980) and Policies of Senior Colleges and Universities Concerning Transfer Students from Two-Year Colleges in North Carolina (1986). The University of North Carolina includes all public four-year colleges and universities and has a Board of Governors for its 16 constituent institutions.

The South Carolina Commission on Higher Education has an agreement with the public four-year colleges and universities to award transfer credit for 43 courses offered by the two-year institutions provided that students taking such courses are registered in the programs leading to the associate of arts or science degree. Additionally, lists for individual four-year institutions are published for course transferability.

In Illinois, a voluntary community college transfer coordination group solves articulation problems. The Illinois Community College Board endorsed an articulation consortium for statewide subject matter agreements in 1976. The Illinois Articulation Initiative (IAI), a group of faculty at post-secondary institutions throughout Illinois, defines and develops the general education core curriculum, recommends lower-division course-work in specific baccalaureate majors, and provides advisors and counselors at transfer institutions (IAI, 2001).

A more common practice of articulation is a voluntary agreement by small groups or pairs of institutions or even particular division within the colleges.

In Arizona, the Maricopa Community Colleges and Arizona State University are mutually interdependent. Maricopa Community Colleges are dependent on opportunities for their graduates to complete baccalaureate-degree programs and Arizona State University is dependent on transfer students to enroll in upper-division programs. On February 4, 1983, the Joint Conference Committee (JCC) of the Arizona State Board of Regents (ABOR) and the State Board of Directors for Community Colleges in Arizona (SBDCCA) established the Academic Program Articulation Steering Committee (APASC). The JCC charged APASC with the oversight of transfer articulation for the public community colleges and universities. To accomplish this, APASC established an

organizational structure that provides for representation of faculty and administrators from Arizona's public universities and community college districts.

Through a legislative footnote affixed to the budgets of Arizona's public community college districts and universities in 1996, the ABO and the SBDCCA were charged with establishing the Transfer Articulation Task Force (TATF). A similar footnote continues to be affixed to the budgets. It was the intent of the legislature that this Task Force establish a seamless statewide articulation and transfer system. This was to include a process for transfer of lower-division general education credits and curriculum requirements for majors, with the objective of reaching consensus on an agreement that assures that community college students may transfer to Arizona public universities without loss of credit toward a baccalaureate degree. The Arizona transfer model includes three transfer associate degrees and seven pathways. Each of the transfer associate degrees includes two pathways. Each pathway includes an Arizona General Education Curriculum (AGEC), common courses for shared university majors and electives. The AGEC and the associate degree pathways transfer as a block, which includes specific benefits for students. The seventh pathway (Transfer Guide-Exceptional Requirements) does not lead to a transfer associate degree. Students are permitted to transfer one-half of the baccalaureate degree requirements plus one course from a community college district (Arizona Transfer Articulation Support Systems, 2001).

Two factors that mediate against the enforced implementation of statewide agreements are the constitutional autonomy of some state universities, and the delegation of responsibility for admission and curricular decisions by university governing boards to

the faculty (Knoell, 1990). Where one or both of these factors are operative, legislatures and state coordinating boards are unable to give more than very general policy direction to these institutions regarding transfer and articulation.

Common course number systems in Florida and California depend heavily on faculty collaboration. In Texas, the legislature has given the Coordinating Board for the Texas College and University System responsibility for approving and publishing a transfer curriculum for each major subject area that includes general course descriptions. It is recommended but not mandated for adoption by all institutions in the system. Broad representation by faculty at both two-year and four-year institutions recommend the transfer curricula, with review and revision as necessary.

In terms of policies, four major policies exist in articulation: state articulation agreements, state-level transfer/articulation bodies, transfer student services, and performance data and feedback systems.

Some articulation agreements call for recognition of the associate of arts degree as meeting the general education requirement for a baccalaureate degree program in any state-supported four-year institution. Other state agreements do not recognize the degree but specify a general education core which, when completed by the two-year college student, must be honored and accepted by the four-year institutions. A few states have articulation agreements that call for transferability of all courses between public institutions in that state. Common course numbering systems, course equivalency guides, and computer-aided course requisites and comparability information are used to facilitate course or program comparability. An example of this type of state-legislated articulation

can be seen in the language of the 1985 law of the Colorado Legislature when assigning responsibilities and authority to its new Commission on Higher Education. It reads:

The commission shall establish, after consultation with the governing boards of institutions, and enforce student transfer agreements between two-year and four-year institutions and among four-year institutions. Governing boards and institutions shall conform to such agreements and to commission policies relating to such agreements. Such transfer agreements shall include provisions under which institutions shall accept all credit hours of acceptable course work for automatic transfer to another state-supported institution of higher education in Colorado. The Commission shall have final authority in resolving transfer disputes (Section 23-1-107, HB No. 1187) (Bender, 1990, p. 6).

Delaware and Rhode Island transfer policies call for transferability of all courses between the public institutions of the states. A systematic review of courses by appropriate faculty of course content and proficiency requirements is used for development of a matrix of course credit for all programs offered by the institutions (Bender, 1990). Florida probably has one of the most comprehensive and operationally efficient common course numbering and designation systems (Bender, 1990).

Nevada has developed a common course-level numbering system for all system institutions to facilitate student advisement and registration. All community college transfer courses follow a statewide course designation with equivalent university lower-division courses. This system also includes numbering for developmental courses, which are nontransferable (Bender, 1990).

State-level transfer/articulation bodies are usually voluntary and are representative of state institutions. They provide collective and collaborative measures for state-level articulation plans. An example is the North Carolina Joint Committee on College Transfer Students, sponsored by the North Carolina Association of Colleges and Universities and used by the university system as the articulation policy making forum. Their statement in the statewide guidelines includes the following excerpt:

Prepared voluntarily for voluntary use by representatives of colleges and universities which carefully guard and value their academic independence, the guidelines represent a recognition of the importance of common reference point which autonomous institutions may use in considering the admission of and the granting of credit to transfer students. (Guidelines for Transfer, 1987, p. 2)

Several states have transfer/articulation officers located at both two-year and four-year institutions whose primary job is to promote transfer of students, to resolve grievances, and to improve faculty-to-faculty relations. Recruitment programs, orientation, counseling and advisement, and financial aid for transferring students are examples of the types of services provided by these officers. Research has verified that the majority of two-year college transfer students will apply to a nearby baccalaureate institution (Bender, 1990). This fact gives the transfer officers at both institutions a challenge to work together cooperatively to facilitate the movement of students from one institution to the other. Bender (1990), in his national study of state policies and practices, found that too many cases in too many states existed where the public two-year and four-year institutions did not cooperate, sometimes actually being adversarial competitors.

Feedback systems are lacking in most states. Only a few states have the capability of determining whether their policies are being implemented or ignored. An official in Ohio observed that the Board of Regents articulation/transfer policy guidelines had been on the books since 1977, but had never been implemented (Bender, 1990). William R. Odom (Bender, 1990) has developed a state-level information systems model, but there is little evidence of its widespread use.

Articulation of career education programs may take place at several levels: (1) Articulation between secondary schools and community colleges (two-plus-two), with an option to continue to a baccalaureate degree for those who wish to do so; (2) The prescription of two years of academic and pre-professional course work for transfer into an upper-division program to a professional field; (3) Articulation between two-year career education programs in community college and related baccalaureate degree programs offered by four-year institutions; (4) Articulation for students enrolled in noncredit postsecondary programs in adult schools, regional public vocational/technical schools, or those in the private sector, to enable them to continue in a similar community college program and receive credit or other recognition for their previous achievement; (5) Articulation that begins with career preparation at the secondary school level, continues through the completion of an associate degree, and leads to a baccalaureate degree in an appropriate discipline or career field; and (6) An upper-division baccalaureate-degree program for men and women who have had significant work experience after completing a community college vocational/technical program (Knoell, 1990).

The most promising of possible developments in career education is the occupationally-oriented curriculum that begins in high schools, continues through the community colleges, and leads to a baccalaureate degree. This is typically called the 2+2+2 program. This is not six years of vocational education at three successively higher levels but, instead, a program that recognizes that students need and want to think about their future careers while getting their education, and that many career fields offer entry-level opportunities after completion of varying amounts of formal education. This is the career ladder concept that enables students to "stop out" for employment along the way and then resume work toward a degree in the same or a related career field. In Illinois, Southern Illinois University may have pioneered the development of 2+2+2 programs in agriculture, business, industrial arts, and teacher education, one objective of which is to prepare teachers for a number of vocational fields (Knoell, 1990).

Other associate degrees are being offered in some states. The Associate in Specialized Technology (AST) or the Associate in Specialized Business (ASB) degrees, which typically include not less than 20% of course work in general education and 75 or 80% of the work in the area of specialization and related course work are being passed through curriculum committees (Bender, 1990).

Oregon transfer policies recognize up to 24 credit hours from vocational technical courses as "general elective" and promote 2 + 2 program articulation in the occupation fields (Bender, 1990). The Iowa Board of Regents policy recognizes up to 16 hours of vocational courses for transfer. Nevada's common course numbering system provides for occupational courses in the applied associate degree programs, the same as in Florida (Bender, 1990).

Articulation Issues and Questions

Cohen (1990) asserted that "preparing students to transfer to four-year colleges and universities has been a primary function of the two-year colleges since they began" (p. 432). However, transfer and articulation policies generate numerous questions from advisors, students, and academic officers. These questions generally are in the areas of requirements for transfer students versus native students, access to limited program areas at the four-year institution, loss of credit due to attendance at a two-year institution, and data base inconsistencies related to transfer.

Educational Quality of Transfer Students

A definite bias exists in four-year institutions toward native students and against transfer students (Prager, 1991; Williams, 1992). According to Ignash (1992), faculty at four-year institutions often regard community college transfer students as inferior, even though they perform as well academically as native students. Prager (1991) found that prejudice existed against transfer students even when the student has attended a two-year branch campus of a four-year university. She also found that internal transfer is affected by many of the same inhibitors that affect other two- and four-year institutions including elitist judgments about two-year students and programs, enrollment caps favoring baccalaureate track students, arbitrary rulings about curriculum parallelism, and notions about program completion requirements inconsistent with the educational aspirations of career track students. Prager (1991) argued that some baccalaureate programs in system colleges endorse transfer-inhibiting practices related to articulation, including the failure of those in authority to enforce articulation policies, forcing branch campus students to

reapply for admission, or to require curriculum sequences at the two-year campus to be similar, but not identical, to the first two years of the four-year track.

Some transfer students have been required to pass a proficiency exam in areas where they have taken a course to prove they have acquired the knowledge necessary to complete the upper division work. This is especially true for students who would not have been admitted to the four-year institution because of deficiencies from high school. For example, greater prescription of academic courses to be taken in high school--such as a certain number of foreign language courses, rather than the demonstration of communication and computational competencies as a condition of admission--is creating a dilemma for community college students attempting to make up high school deficiencies. If they took no foreign language courses in high school, may they make up this deficiency by enrolling in college-level courses for transfer credit and, if so, how much college credit is equivalent to a three-year sequence of high school courses? Or should the college course be regarded as remedial and the student not allowed to receive transfer credit?

According to an article in the Chronicle of Higher Education (1993), Pitzer College actually declined to provide financial aid to any transfer students from other colleges, citing budget constraints and lack of adequate funds. This decision, although quickly reconsidered, had an immediate impact on the surrounding community colleges.

The debate about the quality of community college education has been and continues to be controversial and widely debated (Bender & Ross, 1997; Brint & Karabel, 1989; Carlan & Byxbe, 2000; Cohen, 1989; Dougherty, 1994; Parnell, 1982, Susskind, 1997; Zwerling, 1976, 1986). Much literature questioning the intent and

quality of community college education exists. McGrath and Spear (1991) chronicled a crisis resulting from a lack of academic rigor in the community college classroom. Along a similar vein, Brint and Karabel (1989) argued that the community college is not a springboard to four-year institutions but manages ambition and diverts students from four-year colleges. Vaughan (1992) contended that community college faculty continue to be regarded as inferior educators because four-year college faculty continue to command more respect as scholars than two-year college faculty.

While critics of the two-year college continue to question the academic quality, data indicate that community college students who go on to four-year colleges do quite well. There is an initial transfer shock, and students' grade point averages generally drop slightly in their first term after transfer. Most of them persist until the baccalaureate, and by the time they achieve it, their records are not much different from those who began at four-year institutions (Susskind, 1997). Recent studies show that students who transfer to universities with a large number of credits or with an associate degree tend to do better than those who transfer with only a few credits; furthermore, they perform as well as native students. The study investigated cognitive impacts of five two-year college ($N = 280$) and six four-year college ($N = 531$) students drawn from all sections of the United States. Controlling for individual precollege ability, there was general parity between two- and four-year college students on end-of-freshmen-year reading comprehension, mathematics critical thinking, and composite achievement (Pascarella, Bohr, Amaury, & Terenzini, 1995). An agenda item at a meeting of the Board of Governors of the California Community Colleges indicated that community college students perform,

persist, and graduate at a level comparable to students who began at California State University and at the University of California (Cepeda, 1991).

The Study of the Success of Community College Transfer Students in the Oklahoma State System of Higher Education (November 1994) tracked a six-year cohort of Oklahoma students through the state system and concluded that at four-year institutions, graduating two-year college transfer students appear to perform in a manner comparable to non-transfer four-year students. It indicated that two-year college transfer students sharing an average ACT score three points below that of all nontransfer four-year college students still earned GPAs similar to four-year nontransfer students during upper division work and at graduation. Designed to evaluate the success of students transferring from Oklahoma two-year colleges to four-year universities, the student transfer study defined the cohort group as students who entered a two-year college full time in fall 1986, completed more than 30 credit hours, and transferred to a four-year institution within three years. The two-year college student GPAs were collected at transfer and compared to the nontransfer students' GPAs earned after accumulating 60 credit hours at a four-year institution. The average transfer GPA was 2.93 compared to an average GPA of 2.78 for the nontransfers. For upper division work, two-year transfer students earned a 3.02 GPA compared to 3.08 for four-year nontransfer students. The higher transfer GPAs of transfer students resulted in slightly higher graduation GPAs for transfer students than nontransfer students, 3.06 and 3.04 respectively. More significant, however, is the slight difference in upper-division GPAs existing between nontransfer and transfer students (.06) because transfer students entered college with lower ACT scores than the nontransfer students. The public release of this study added credibility for

establishing system-wide course equivalencies between two-year college and four-year university curricula (Bender & Ross, 1997).

In a more recent study by Carlan and Byxbe (2000), 1,000 undergraduate college students admitted to a major university in the southern United States over a three-year period (1989-1991) were randomly selected under the following criteria: (1) transfer students entering the university with a minimum of 24 earned credit hours; (2) native students having reached their junior year (54 credit hours or more). The final sample size included 487 transfer students and 230 native students. The study supported the findings of most studies that appreciable differences between the overall grades of native and transfer students in upper level course work rarely exist following the initial transfer shock of the first semester. Regression analysis indicated that upper division GPAs varied little between native and transfer students when holding constant the influences of related variables. The findings in this study detected no significant GPA differences between the cumulative upper division GPAs of transfer and native students. Furthermore, regression attempts to isolate individual factors most important in the academic performances of each student group also revealed few differences.

Limited Access to Programs

Another concern for students who transfer to four-year institutions pertains to "limited access" or "impacted" programs where the number of qualified applicants exceeds the number who can be enrolled because of limited resources or other constraints. The University of Florida admitted 51.1% of its native students into limited access programs, but only 26.9% of the community college transfer students. Admissions figures for students meeting or exceeding minimum requirements were 95%

for native students and 86% for associate degree transfer students, but native students were 2.74 times more likely than transfer students to be admitted even though they did not meet minimum program standards (Williams, 1992).

Although declining enrollments are a problem for some institutions, others—particularly the “flagship” campuses of the state university systems—continue to have more qualified freshman and transfer applicants than they are able to enroll. Thus limited access to such programs as engineering, business administration, architecture, and other career fields that are attractive to undergraduate students makes it necessary to determine what portion goes to native students and what portion goes to transfer students. Legislatures in Florida and Illinois established their newest universities as upper-division and graduate institutions thus eliminating at that time the problem of limited access for transfer students to these campuses and most programs. One approach to reducing the problem of limited access involves the development of closely articulated lower-division programs by pairs of institutions with some type of guarantee that community college students who complete such programs with grades that are specified as part of the agreement will be admitted to the university with full credit for the lower-division courses. Arizona, California, and Colorado offer examples of this kind of arrangement. In Arizona, the Maricopa Community Colleges and Arizona State University, limited access is not a problem because of the university's heavy dependence on transfer students. In California, the Los Rios Community Colleges and the University of California Davis undergraduate enrollments have been impacted. In Colorado, the Community College of Denver and Northern Colorado State University encourage rather than control the flow of transfer students to the university.

Loss of Credit

The role of the associate degree and the guarantee it provides is questionable and generally not standardized. The student obtaining an associate degree expects to have a junior standing at the four-year institution but is often not granted such status. Florida is foremost among the states in the study of the associate of arts degree to insure transfer and full acceptance of community college courses. Transfer agreements based on the attainment of the associate of arts degree simplify the articulation process for community colleges, the receiving institutions, and for the many students who pursue this type of curriculum, but they do not eliminate two major problems.

The first involves special prerequisites that must be met in the community colleges in order to be admitted at the junior level to professional programs like engineering or other limited access programs, thus in a sense reducing the value of the guarantee that receipt of the associate degree appears to offer.

The second and potentially more serious problem is the increasing number of students with associate of applied science degrees who wish to complete baccalaureate degrees. Present agreements governing transfer and the acceptance of credit are not applicable to students with such degrees except for the general education portion of their programs, and they are likely to lose both time and credit if they transfer.

Data Base Inconsistencies Related to Transfer

With the expanded use of technology, a great deal of progress has been made by colleges and universities in the use of computers for the collection, storage, and analysis of transfer student data and related course and program information. However, most data bases at the state and system-wide levels are not established in a way that facilitates

student tracking from institution-to-institution, or through programs that culminate in a baccalaureate degree. Transfer information, if available, is not organized in a way to determine the degree of preparation, which allows for the successful completion of the four-year degree. In 1965, hard copies of student transcripts were examined and it was observed that conclusions about the level of persistence and quality of performance of the more than 7,000 community college transfer students to 43 four-year institutions in 10 states could not easily be drawn because of the great diversity of findings for students in different types of institutions and programs (Knoell, 1990). While most state-level data bases contain unit student records, the absence of a unique identifier such as a Social Security number is an obstacle in tracking them from institution-to-institution and year-to-year. Barriers to better use of available technology may include the counselors' fear that they will be replaced or that their role will be diminished by computers, and the inadequacy of the student and course data bases that are essential to the efficient use of the technology (Knoell, 1990).

Florida's on-line advisement and articulation system (SOLAR) provides students with an academic plan according to their selected major and upper-division institutions. The system is used in the high schools for advisement. Miami-Dade Community College uses an Advisement and Graduation Information System (AGIS) to monitor students' progress toward their degree goals and to alert counselors and students to changes in general education requirements. Also, in Florida, the Florida Information Resource Network (FIRN) transmits student information electronically among all educational levels (Barkley, 1993).

A similar microcomputer-support system in California is known by the acronym ASSIST (Articulation System Stimulating Inter-institutional Student Transfer). It provides information on transfer admission requirements, course recognition and comparability, as well as information on support services available at each institution (Kershner & Lindahl, 1989).

Grievance Procedures

While transfer issues and articulation questions continually arise, little has been done to protect the student. Articulation grievance procedures are in place beyond the campus level in several states including Arkansas, Maryland, Massachusetts, and Washington. This allows students to present their case before a governing body for decisions about transfer and articulation (Bender, 1990).

Summary

Three styles of articulation agreements operate in our 50 states today: formal and legal policies; state system policies, in which the state tends to be the controlling agency; and voluntary agreements among institutions, whose main feature is negotiation rather than legislative fiat (Susskind, 1997).

The success of the transfer function across the United States has had more to do with strong state leadership and the resulting commitment to transfer success than to any issues of quality of instruction or knowledge gained by students (Barry & Barry, 1992).

Making transfer and articulation work is also dependent upon the willingness, commitment, and attitudes of people at the institutional level (Bender, 1990). People must know each other, communicate with each other, respect each other, trust each other,

and work together. President-to-president and faculty-to-faculty relationships have resulted in clearer understanding of the different institutional missions and institutional cultures making up a state's system of postsecondary education. Two-year faculty have come to realize university faculty members do care about students and are committed to teaching and learning. University faculty simultaneously have discovered that their two-year college counterparts are current in their disciplines and are committed to scholarship.

Institutional leaders, especially chief executive officers, set the direction and tone by serving transfer students and working with other institutions. Baccalaureate interests in the transfer/articulation debate are typically directed toward quality. Some question the quality of preparation provided by community colleges as well as the quality of performance and persistence of their product. Differences among two-year colleges and differences in the characteristics of the entering students make most state two-year college systems vulnerable to question, skepticism, and doubt. The nature and quality of faculty and staff of the colleges and the emphasis placed on the transfer function in comparison to the occupational programs, developmental programs, and business/industry services compound baccalaureate institutions' concerns.

The ability of two-year institutions to verify lower-division collegiate-level courses together with standards of rigor are important in satisfying the baccalaureate view. Recent studies show that students who transfer to universities with a large number of credits or with an associate degree tend to do better than those who transfer with only a few credits; furthermore, they perform as well as native students (Susskind, 1997). A spring 1995 study by a team of researchers at the University of Illinois at Chicago and at

Pennsylvania State University concluded that at least during the first year of attendance, the cognitive impacts of two-year colleges may be indistinguishable from those of four-year institutions that enroll similar students. The study investigated cognitive impacts of five two-year (280 students) and six four-year colleges (531 students) drawn from all sections of the United States. Controlling for individual pre-college ability, there was general parity between two- and four-year college students on end-of-freshman-year reading comprehension, mathematics, critical thinking, and composite achievement (Pascarella, Bohr, Amaury, & Terenzini, 1995).

The two-year college is concerned that transfer students are treated the same as native students. Two-year faculty and administrators deal with heavy-handed, condescending attitudes from upper-division institutions that are often found in testimony and comments. Anecdotal evidence is offered for each but often lacks verification (Bender, 1990). Two-year colleges do not know enough about themselves, their programs, the experiences of their transfer students, and the resultant need for self-corrective actions. Two-year colleges in each state must make a commitment to improving system-wide information about transfer and articulation as well as be willing to address internal weaknesses (Bender, 1990).

According to Barry and Barry (1992), the transfer function works best in states where formal articulation and transfer agreements are mandated by state legislation. The highest transfer rates have been in states where the articulation and transfer agreements have a legislative basis such as Florida, Missouri, Texas, Washington, and Rhode Island (Barry & Barry, 1992).

CHAPTER III

METHODS

Introduction

This chapter contains a description of the research design for this study, the subjects, measures, procedures, and data analysis. This study is a descriptive study designed to collect data pertaining to the perceptions of students, faculty, and chief academic officers in Arkansas public colleges.

Research Design

Descriptive research is concerned with depicting the present (Borg & Gall, 1996). Within descriptive studies, surveys are the most frequently used method of determining conditions as they currently exist. Surveys can be properly used as a screening device or to gain an accurate description of the present relationship among variables (Borg & Gall, 1996). According to Borg and Gall (1996), questionnaire items can be in either closed or open form. The form is determined by the objective of the particular questions. The closed form leads to more efficient quantification and analysis of results (Borg & Gall, 1996). It was decided that a closed form questionnaire would produce the objective, quantifiable information needed to study articulation practices and concerns.

Subjects

The subjects for this study were students, faculty, and chief academic officers in Arkansas two-year and four-year public postsecondary institutions. The students and

faculty were representative of the overall population in two-year and four-year institutions in Arkansas using ADHE demographic statistics. Six two-year institutions and four four-year institutions were chosen for the study based on demographics (Appendix E). Students at the two-year campus were chosen based on their intent to transfer to a four-year institution. Students at the four-year level were chosen based upon data indicating they had transferred from a two-year institution in Arkansas. All instructors at the six two-year institutions were given surveys. The chief academic officer or the institutional research officer of the four four-year institutions chose the instructors to receive the survey. A total of 700 two-year and 400 four-year student surveys were sent to the 10 institutions. A total of 225 two-year and 120 four-year faculty surveys were sent to the participating institutions. The 32 chief academic officers in the state public institutions participated in the CAO Survey.

Measures

Surveys, developed specifically for this study, were used to collect data. The basis for the questions was a selection of statements that represented articulation practices identified by a review of literature and a previous pilot program. The survey format was adopted from an instrument designed by Freeman (1996). Research studies, professional literature, student and faculty feedback, and input from a diverse group of college educators were used in developing statements that represented common practices. The two-year student survey consisted of 27 items while the four-year survey had 34 items divided into three sections: Part I was demographic information; Part II was a section of order of importance to the student; Part III was a section with responses of "yes," "no," or

"I don't know" pertaining to articulation practices and policies pertinent to students. It took an average of four minutes per student to complete the survey. The two-year faculty survey consisted of 52 items while the four-year survey had 51 items divided into four sections: Part I included demographic information; Part II allowed them to rank the order of importance of articulation and transfer issues; Part III was a comparison of current practices versus ideal practices using two Likert-type scales; and Part IV was similar to Part III of the student survey with similar questions. Each faculty survey took approximately seven minutes to complete. The two-year and four-year Chief Academic Officer Survey had 54 items and 53 items, respectively and consisted of the same divisions as the faculty but had more questions pertaining to administrative functions. The CAO survey took approximate seven minutes to complete.

The surveys were validated using six experts in the field of articulation and statistics including a statistics professor, a director of institutional research and planning at a state institution, the Deputy Director for Academic Affairs of the Arkansas Department of Higher Education, the Assistant Director for Planning and Accountability from the Arkansas Department of Higher Education, the Associate Director for the Arkansas Department of Higher Education, and the Executive Director of the Arkansas Association of Two Year Colleges (AATYC). Information pertaining to the experts is in Appendix C. The critique consisted of testing the survey on the basis of format, wording, directions, content, and difficulty. Recommendations were solicited for improving the survey. None of the experts were included in the population of respondents to this study. The survey was revised using suggestions from the experts.

Procedures

A pilot program-to-program articulation project was completed in the summer of 1999 and implemented in the fall of 1999 at a representative two-year institution. This project was a collaborative effort and was initiated by the four-year institution. Program-to-program articulation plans were developed for all transfer degree programs at the four-year institution except for the Information Science and Systems Engineering program. Focus groups were established to determine the format to be used that the students could easily understand prior to the development of the plans. The plans were approved by the deans of each college, the department heads, and faculty. After the plans were used at the fall registration, focus groups were conducted to determine the effectiveness of the plans. Survey questions were identified from the focus groups to be distributed in the fall of 2001 for this study.

Following approval of the proposal, the following procedures were followed in conducting this study:

1. The appropriate forms were completed for each campus to allow the research to be conducted. Institutional Review Board Requests were needed for the study in three of the four participating four-year institutions (Appendix D).
2. The chosen experts evaluated the survey and revisions were implemented.
3. Informed consent letters were developed and copied (Appendix B).
4. Random lists of four-year students were compiled by each institution to meet the criteria of having transferred from a two-year state institution. Some lists included e-mail addresses as well as mailing addresses.

5. The surveys were reproduced: 700 student surveys for two-year institutions; 400 student surveys for four-year institutions; 225 faculty surveys for two-year institutions; 120 faculty surveys for four-year institutions; 23 two-year CAO surveys; 9 four-year CAO surveys.
6. Surveys were sent both by mail and e-mail to four-year students when possible. One four-year institution allowed the researcher to conduct the survey on campus to random students who had transferred from two-year institutions. Two-year students received their surveys through sophomore-level classes at the institutions delivered through various means at each campus.
7. Most faculty received their surveys via the institutional research office or the CAO at the institution. One four-year institution provided mailing addresses of faculty and asked that they be distributed through the postal service. One four-year institution would not allow the researcher to have access to faculty information of any type, but agreed to distribute the surveys through the advising office.
8. The chief academic officers were given a survey via the e-mail list-serve established by the Arkansas Department of Higher Education. A mailed survey was sent to each CAO who didn't respond via e-mail.
9. At the completion of the data collection, data were analyzed using the Statistical Package for the Social Sciences (SPSS).

The purpose of this study was to investigate the perceptions of two-year and four-year students, faculty, and chief academic officers related to articulation practices in existence. Additionally, this study was designed to determine the desired components for

a successful articulation and transfer system and identify any significant differences that exist between current and ideal articulation practices. Furthermore, this study investigated the feasibility of an articulation officer to oversee transfer procedures and a statewide course numbering system.

The surveys were conducted in the fall semester of 2001 with results tabulated and conclusions drawn in the fall of 2001. A summary report includes the recommendations from this researcher.

Data Analysis

The researcher sought to determine the perceptions of students, faculty, and chief academic officers regarding articulation and transfer issues. In addition, the study sought to determine if a difference existed between current and ideal articulation practices from the viewpoint of faculty and chief academic officers. Descriptive statistics were used to present the data and support the conclusions and recommendations. The paired samples *t*-test was used to compare means in Section III of the survey comparing current procedures to the ideal procedures. The survey questions were divided into categories for comparing current practices to ideal practices. The categories were Administrative Issues, Curriculum and Instruction Issues, Interinstitutional Relationships, and Evaluation Issues. The SPSS software was used to conduct the analyses.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

This study was a descriptive study designed to collect data pertaining to the perceptions of two-year and four-year students, faculty, and chief academic officers in Arkansas public colleges regarding articulation practices and procedures. Additionally, this study was designed to determine the desired components for a successful articulation and transfer system and identify any significant differences that exist between current and ideal articulation practices. Furthermore, this study investigated the feasibility of a statewide course numbering system and an articulation officer to oversee transfer procedures. This chapter outlines the findings of the data analysis of this research. The results are presented in narrative form, accompanied by tables and figures where appropriate. The chapter presents demographic information and addresses the research questions for this study.

Demographics

Two-Year Students

A total of 378 surveys were returned from the six two-year institutions out of 700 sent, for a return rate of 54%. According to the student headcount published by ADHE and presented at the February 2002 Arkansas Higher Education Coordinating Board Meeting (ADHECB, 2002), 2001 statistics indicated that there were 43,832 students attending public two-year institutions. Demographic information from the survey used to

determine a representative sample included ethnicity, gender, and remediation requirements.

Survey ethnicity characteristics included White/Caucasian (82.8%), Black/African American (12.2%), Asian American (0.8%), American Indian (0.8%), Hispanic/Latino (1.3%), and Other (0.8%). Five students (1.3%) did not respond in this category. These ethnicity characteristics compared to the state two-year college enrollment with White (78.4%), Black (16.9%), Asian/Pacific Islander (1.2%), Native American (1.0%), Hispanic (1.7%), and Non-resident and Unknown (0.8%) (ADHECB, 2002, p. 19-5). The largest difference between the sample and the population occurred in the Black/African American statistics with only a 4.7% difference, thus indicating a representative sample.

Survey gender results yielded 66.1% female and 31.5% male with nine (2.4%) students not responding. These data corresponded to the state two-year gender statistics with 62.0% female and 38.0% male (ADHECB, 2002, p. 19-5). Differences between the sample and the population indicated a 4.1% difference in females and a 6.5% difference in males.

First-time freshmen assigned to remediation by discipline in Arkansas public higher education in Fall 2001 indicated that at the two-year level, 68.5% were remediated in mathematics, 50.2% were remediated in English, and 39.4% were remediated in reading. The sample survey indicated that 50.3% of those surveyed had taken remedial mathematics, 25.4% had taken developmental English, and 23.3% had completed reading. Since the surveys were distributed primarily to sophomores planning to transfer, those students receiving certificates or associate of applied science degrees that were included in the state statistics were not included in the sample population.

Other sample demographics collected indicated that most (68.9%) of the students surveyed were classified as sophomores and were interested in majoring in education or business/computers.

Four-Year Students

A total of 125 surveys were returned from the four four-year institutions out of 400 sent, for a return rate of 31.25%. According to the student headcount published by ADHE and presented at the February 2002 Arkansas Higher Education Coordinating Board Meeting (ADHECB, 2002), 2001 statistics indicated that there were 65,704 students attending public four-year institutions. Demographic information from the survey used to determine a representative sample included ethnicity, gender, and remediation requirements. Other demographic information is also discussed in this section.

Survey ethnicity characteristics included White/Caucasian (80.0%), Black/African American (16.8%), Asian American (0.0%), American Indian (0.0%), Hispanic/Latino (0.8%), and Other (0.0%). Three students (3.4%) did not respond in this category. These ethnicity characteristics compared to the state four-year enrollment with White (73.9%), Black (18.4%), Asian/Pacific Islander (1.5%), Native American (0.9%), Hispanic (1.2%), and Non-resident and Unknown (4.1%) (ADHECB, 2002, p. 19-5). The largest difference between the sample and the population occurred in the White/Caucasian statistics with only a 6.1% difference, thus indicating a representative sample.

Survey gender results yielded 67.2% female and 32.0% male with one student (8.8%) not responding. These data corresponded to the state four-year gender statistics with 56.3% female and 43.7% male (ADHECB, 2002, p. 19-5). Differences between the

sample and the population indicated a 10.9% difference in females and a 11.7% difference in males.

First-time freshmen assigned to remediation by discipline in Arkansas public higher education in Fall 2001 indicated that at the four-year level, 37.8% were remediated in mathematics, 22.0% were remediated in English, and 21.8% were remediated in reading. The sample survey indicated that 46.4% of those surveyed had taken remedial mathematics, 19.2% had taken developmental English and 20.8% had completed reading.

Other sample demographics collected indicated that most (66.4%) of the students surveyed had accumulated at least 65 credit hours and were majoring in education or business/computers.

Student Demographic Comparisons

Table 1 compares the sample for two-year and four-year student demographics with the state public population statistics for the groups. Results indicated that the sample was representative of the population with a few exceptions. The most evident difference was in the gender breakdown for the four-year institutions and in the remediation category. Although both sample and population student data indicated more females than males, fewer males were represented in the four-year student sample than were in the four-year student population by a difference of 11.7%. The sample for the two-year students was consistently lower in remediation than the state population while four-year students in the sample have more often taken remedial mathematics.

Table 1

Demographic Comparisons Between Student Sample and Population

Item	Two-Year Students		Four-Year Students	
	Sample	Population	Sample	Population
Ethnicity				
White/Cau.	82.8%	78.4%	80.0%	73.9%
Black/AA	12.2%	16.9%	16.8%	18.4%
Asian Am.	0.8%	1.2%	0.0%	1.5%
Am. Indian	0.8%	1.0%	0.0%	0.9%
Hisp./Latino	1.3%	1.7%	0.8%	1.2%
Other/Unknown	0.8%	0.8%	0.0%	4.1%
No Response	1.3%	0.0%	3.4%	0.0%
Gender				
Female	66.1%	62.0%	67.2%	56.3%
Male	31.5%	38.0%	32.0%	43.7%
Unreported	2.4%	0.0%	0.8%	0.0%
Remediation				
Mathematics	50.3%	68.5%	46.4%	37.8%
English	25.4%	50.2%	19.2%	22.0%
Reading	23.3%	39.4%	20.8%	21.8%

Other sample demographics collected compared credit hours (Table 2). No two-year students had accumulated more than 90 hours but 18.4% of the four-year students had transferred with less than 15 credit hours.

Table 2

Sample Student Credit Hours Accumulated

Credit Hours	Two-Year Students	Four-Year Students
0-15	12.3%	18.4%
16-32	18.8%	2.4%
33-48	31.1%	4.8%
49-64	27.6%	8.0%
65-90	10.2%	34.4%
More than 90	0.0%	32.0%

The students in the sample were asked to give their area of study (Table 3). More than 40% of both two-year and four-year students in the sample were majoring in education or business/computers. The areas of English, art/humanities, health sciences, and technical fields had the smaller number of students in the sample. The other category included such areas as agriculture, criminal justice, and aviation.

Table 3

Area of Study for Sample Two-Year and Four-Year Students

Area of Study	Two-Year Students	Four-Year Students
Education	22.2%	20.8%
Business/Computers	18.5%	20.8%
Other	15.3%	15.2%
Social Science	13.8%	18.4%
Math/Science	12.4%	10.4%
English	5.0%	3.2%
Arts/Humanities	4.2%	4.8%
Technical	4.0%	1.6%
Health Science	2.6%	4.8%

Reasons why students chose a two-year college to begin their education were widely varied. Table 4 gives an indication of why students in the sample chose to begin their education at a two-year institution. The characteristics of cost and closeness to home were the primary reasons for choosing a two-year college to begin their post-secondary education. Neither the two-year or four-year students indicated that advertisements or on-line courses were factors for them to choose a two-year institution. Table 4 indicates percentages of affirmative responses to the characteristics. Students could choose more than one characteristic. Other category reasons included getting married, job requirements, and their spouse or parent had attended the institution.

Table 4

Reasons for Choosing a Two-Year College to Begin Post-Secondary Education

Characteristic	Two-Year Students	Four-Year Students
Cost	86.5%	67.2%
Close to Home	78.2%	76.8%
Class Size	55.3%	34.4%
Schedule of Classes	32.8%	24.0%
Friendliness of Staff	25.9%	25.6%
Ease of Registration	22.8%	24.8%
Friends	20.1%	12.9%
Scholarships	20.1%	22.4%
Course Offerings	19.0%	20.8%
Quality of Instruction	18.5%	20.0%
Quality of Services	14.8%	13.6%
Parental Suggestion	14.6%	18.4%
Other	6.6%	12.8%
On-line Courses	4.0%	4.0%
Advertisement	1.3%	2.4%

Two-Year Faculty

A total of 128 faculty surveys were returned from the six two-year institutions out of 225 sent, for a return rate of 57%. According to current faculty data furnished by ADHE, statistics indicated that at the time of this survey there were 1,297 full-time faculty at public two-year institutions in Arkansas. Demographic information from the survey used to determine if the faculty that returned surveys was a representative sample included ethnicity, gender, and age. Other demographic information will be included in the discussion in this section.

Survey ethnicity characteristics included White/Caucasian (88.3%), Black/African American (3.9%), Asian American (1.6%), Hispanic/Latino (0.8%) and Other (1.6%). Five instructors (3.9%) did not respond to the ethnicity inquiry. These ethnicity characteristics compared to the state two-year faculty ethnicity with White (93.6%), Black (4.6%), Asian/Pacific Islander (0.0%), Native American (0.5%), Hispanic (0.5%), and Non-resident and Unknown (0.0%). There were no Native Americans in the sample. The largest difference between the sample and the population occurred in the statistics for White/Caucasian faculty with only a 5.3% difference.

Survey gender results yielded 58.6% female and 37.5% male with five (3.9%) not responding. These data corresponded to the state two-year gender statistics for faculty with 52.1% female and 47.9% male. Differences between the sample and the population indicate a 6.5% difference in females and a 10.4% difference in males.

Faculty age ranges on the survey indicated 30 or younger (17.2%), 31-40 (23.4%), 41-50 (24.2%), 51-60 (21.1%), 61-65 (3.1%), and over 65 (1.6%). Twelve instructors (9.4%) choose to not answer the inquiry on age. Statewide faculty age ranges were 30 or

younger (7.3%), 31-40 (21.5%), 41-50 (29.9%), 51-60 (34.0%), 61-65 (6.0%), and over 65 (1.2%). The largest differences occurred in the 30 and younger range of 11.7% and the 51-60 age range with a difference of 10.7%.

Four-Year Faculty

A total of 70 faculty surveys were returned from the four four-year institutions out of 120 sent, for a return rate of 58%. According to current faculty data furnished by ADHE, statistics indicated that at the time of this survey there were 3,889 full-time faculty at public four-year institutions in Arkansas (not including UAMS, the medical school). Demographic information from the survey used to determine if the faculty that returned surveys was a representative sample included ethnicity, gender, and age. Other demographic information is included in the discussion in this section.

Survey ethnicity characteristics included White/Caucasian (90.0%), Black/African American (1.4%), Asian American (1.4%), American Indian (2.9%), Hispanic/Latino (1.4%) and Other (0.0%). Two instructors (2.9%) did not respond to the ethnicity inquiry. These ethnicity characteristics compared to the state two-year faculty ethnicity with White (83.8%), Black (8.7%), Asian/Pacific Islander (2.6%), Native American (3.1%), Hispanic (0.7%), and Non-resident and Unknown (1.1%). The largest differences between the sample and the population occurred in the Black/African American with a 7.3% difference. However, there were no Native Americans in the sample.

Gender survey results yielded 35.7% female and 64.3% male. These data corresponded to the state four-year gender statistics for faculty with 40.9% female and 59.1% male. Differences between the sample and the population indicated a 5.2% difference in females and a 5.2% difference in males.

Faculty age ranges on the survey indicated 30 or younger (4.3%), 31-40 (14.3%), 41-50 (20.0%), 51-60 (40.0%), 61-65 (14.3%), and over 65 (2.9%). Three instructors (4.3%) choose to not answer the inquiry on age. Statewide age ranges yielded 30 or younger (8.0%), 31-40 (23.8%), 41-50 (31.5%), 51-60 (27.8%), 61-65 (6.5%), and over 65 (2.4%). The largest differences occurred in the 51-60 age range with a difference of 14.0% and the 41-50 age range with a 10.6% difference.

Faculty Demographic Comparisons

Table 5 compares the sample for two-year and four-year faculty demographics with the state public population statistics for the groups. Ethnicity and gender characteristics are close to the state population for each group. Age was the third comparison characteristic for the faculty groups.

Results indicated that the sample was representative of the population with a few exceptions. The most evident difference was in the gender category for the two-year faculty and the age categories. The two-year faculty male category indicated a 10.4% difference between the sample and the population. Age differences for the two-year comparisons between the sample and the population were most notable for the 51-60 age group with a 12.9% difference and the 30 and younger age group with a 9.9% difference. The primary differences in the four-year comparison of ages between the sample and the population occurred in the 51-60 age group with a 12.9% difference and in the 41-50 age group with an 11.5% difference.

Table 5

Demographic Comparisons between Faculty Sample and Population

Item	Two-Year Faculty		Four-Year Faculty	
	Sample	Population	Sample	Population
Ethnicity				
White/Cau.	88.3%	93.6%	90.0%	83.8%
Black/AA	3.9%	4.6%	1.4%	8.7%
Asian Am.	1.6%	0.0%	1.4%	2.6%
Am. Indian	0.0%	0.5%	2.9%	3.1%
Hisp./Latino	0.8%	0.5%	1.4%	0.7%
Other/Unknown	1.6%	0.0%	0.0%	1.1%
Not responding	3.9%	0.0%	2.9%	0.0%
Gender				
Female	58.6%	52.1%	35.7%	40.9%
Male	37.5%	47.9%	64.3%	59.1%
Unreported	3.9%	0.0%	0.0%	0.0%
Age				
30 or younger	17.2%	7.3%	4.3%	8.0%
31-40	23.4%	21.5%	14.3%	23.8%
41-50	24.2%	29.9%	20.0%	31.5%

(table continues)

Table 5. (continued)

Item	Two-Year Faculty		Four-Year Faculty	
	Sample	Population	Sample	Population
51-60	21.1%	34.0%	40.0%	27.8%
61-65	3.1%	6.0%	14.3%	6.5%
Over 65	1.6%	1.2%	2.9%	2.4%
Not Responding	9.4%	0.0%	4.3%	0.0%

Table 6 gives an indication of the area of instruction for the sample faculty, the number of years employed, and the percentage of faculty that attended a two-year institution as a student. Most two-year faculty had been employed for five years or less while most four-year faculty had been employed for more than 10 years with 44.3% of the four-year faculty employed for more than 15 years. Faculty at both two-year (32.0%) and four-year (14.4%) institutions had attended a two-year college as a student. Most of the two-year faculty surveyed taught in the areas of math/science, business/technology, or English while most of the four-year faculty surveyed taught in business/technology, math/science, or education. Faculty members from the health professions were not well represented in the survey.

Table 6

Employment Comparisons between Two-Year and Four-Year Faculty

Item	Two-Year Faculty	Four-Year Faculty
Area of Instruction		
Math/Science	28.1%	17.1%
Business Technology	15.6%	18.6%
English	12.5%	4.3%
Social Science	11.7%	10.0%
Technical	9.4%	2.9%
Other	8.6%	11.4%
Arts/Humanities	7.0%	12.9%
Education	3.9%	17.1%
Health Professions	3.1%	4.3%
Years Employed		
0-2	25.0%	11.4%
3-5	29.7%	14.3%
6-10	26.6%	12.9%
11-15	10.9%	17.1%
More than 15 years	7.8%	44.3%
Two-year Attendance		
Attended two-year as a student	32.0%	14.4%

Table 7 gives an indication of the number of students instructors are expected to advise in addition to their teaching responsibilities. Most faculty advise between one and 50 students. It should be noted that more than 14% of the faculty surveyed at each level advise more than 100 students.

Table 7

Number of Advisees.

Number	Two-Year Faculty	Four-Year Faculty
0	10.2%	1.4%
1-25	32.0%	35.7%
26-50	26.6%	34.3%
51-75	11.7%	11.4%
76-100	5.5%	2.9%
More than 100	14.1%	14.3%

Two-Year Chief Academic Officers

There are 23 two-year public institutions of higher education in Arkansas. A total of 23 chief academic officer surveys were returned out of 23 sent, for a return rate of 100%. Survey CAO ethnicity characteristics included 21 White/Caucasian (91.4%), one Black/African American (4.3%), and one American Indian (4.3%). Survey gender results yielded 13 female (56.5%) and 10 male (43.5%). CAO age ranges on the survey indicated nine who were 41-50 (39.2%), 13 in the age range 51-60 (56.5%), and one over 65 years old (4.3%).

Table 8 gives an indication of the number of years the CAO had been employed in the academic position at the time of this survey.

Included in the demographic area was a question about whether the CAO had attended a two-year institution as a student. In the two-year CAO survey four (17.4%) of the CAOs had attended a two-year institution as a student.

Another question in the demographic section addressed how often articulation agreements are updated. Out of the 23 chief academic officers at the two-year level, four (17.4%) indicated that they update every year, 18 (78.3%) update every two-to-five years, and one (4.3%) updates every six-to-ten years.

Four-Year Chief Academic Officers

There are nine four-year public institutions of higher education in Arkansas, not including the University of Arkansas for Medical Sciences (UAMS) which requires a bachelor's degree for acceptance. UAMS was not included in this study. A total of nine chief academic officer surveys were returned out of nine sent, for a return rate of 100%. Survey CAO ethnicity characteristics included eight White/Caucasian (88.9%) and one Black/African American (11.1%). Survey gender results yielded one female (11.1%) and eight male (88.9%). CAO age ranges on the survey indicated eight who were in the age range 51-60 (88.9%), and one in the age range 61-65 (11.1%).

Included in the demographic area was a question about whether the CAO had attended a two-year institution as a student. In the four-year CAO survey none of the CAOs had attended a two-year institution as a student.

A question in the demographic section addressed how often articulation agreements are updated. Out of the nine chief academic officers at the four-year level,

three (33.3%) indicated that they update every year, three (33.3%) update every two-to-five years, and one (11.1%) had not updated their agreements. Two CAOs (22.2%) didn't respond to the question.

CAO Demographic Comparisons

A few comparisons should be noted between the two-year and four-year CAOs. In terms of ethnicity, there are no Asian Americans or Hispanics and one American Indian serving as CAOs in public institutions in Arkansas. Additionally one Black/African American serves in each group indicating a low representation of minorities at the CAO level.

Gender differences were relatively low at the two-year level with more females serving in the CAO capacity while only one female was employed as a CAO at the four-year level.

No CAO was younger than 41 years of age with the majority over 51 years old. The majority of both two-year and four-year CAOs had worked in that capacity for five years or less with only one at each level having been employed in the CAO position more than 15 years. Table 8 indicates the results.

Table 8

Demographic Comparisons between Two-Year and Four-Year CAOs

Item	Two-Year CAOs	Four-Year CAOs
Ethnicity		
White/Caucasian	91.4%	88.9%
Black/African American	4.3%	11.1%
Asian American	0.0%	0.0%
American Indian	4.3%	0.0%
Hispanic/Latino	0.0%	0.0%
Gender		
Female	56.5%	11.1%
Male	43.5%	88.9%
Age		
30 or younger	0.0%	0.0%
31-40	0.0%	0.0%
41-50	39.2%	0.0%
51-60	56.5%	88.9%
61-65	0.0%	11.1%
Over 65	4.3%	0.0%

(table continues)

Table 8. (Continued)

Item	Two-Year CAOs	Four-Year CAOs
Years Employed as a CAO		
0-2	21.7%	55.6%
3-5	30.4%	11.1%
6-10	26.1%	22.2%
11-15	17.4%	0.0%
More than 15 years	4.3%	11.1%
Two-year Attendance		
Attended two-year as a student	17.4%	0.0%

Table 9 gives an indication of the areas of instruction for which current articulation agreements exist across the state. All CAOs were aware of the state core curriculum transfer agreement and indicated that the core would transfer. At the two-year level, other than the core, business/technology, English, and social science were areas in which articulation agreements occurred the most. At the four-year level, education was second to the core. All other areas were equally rated (55.6%) as having articulation agreements except for the category listed as "other" which included health related fields and physical education.

Table 9

Areas of Articulation Agreements

Articulated Area	Two-Year Campus	Four-Year Campus
Core Curriculum	100.0%	100.0%
Business/Technology	56.6%	55.6%
English	52.2%	55.6%
Social Science	52.2%	55.6%
Arts/Humanities	47.8%	55.6%
Math/Science	47.8%	55.6%
Education	43.5%	66.7%
Technical Courses	39.1%	55.6%
Agriculture	39.1%	55.6%
Other	17.4%	33.3%

Table 10 gives an indication of how often articulation agreements are updated. Data indicated that two-year CAOs were the primary source for initiating and updating articulation agreements, which most often occur every two-to-five years. At the four-year level, the CAO is not necessarily the primary person responsible for initiating and updating articulation agreements. Most of the four-year CAOs indicated that articulation agreements are updated within a five-year period of time.

Table 10

Frequency of Articulation Updates

Frequency	Two-Year	Four-Year
Have not updated	0.0%	11.1%
Update every year	17.4%	33.3%
Update every 2-5 years	78.3%	33.3%
Update every 6-10 years	4.3%	0.0%
No response	0.0%	22.2%

Research Questions

Introduction

The problem of this study was to investigate the perceptions of two-year and four-year students, faculty, and chief academic officers related to articulation practices in existence. Additionally, this study was designed to determine the desired components for a successful articulation and transfer system and identify any significant differences that exist between current and ideal articulation practices. Furthermore, this study investigated the feasibility of an articulation officer to oversee transfer procedures and a statewide course numbering system.

Research question one addressed student perceptions and concerns. Questions on the student surveys were used to address these topics. Research questions two and three

were addressed in Parts II, III, and IV of the faculty and CAO surveys and are discussed in narrative form. For further explanation, Table 11 summarizes Part III.

To answer research question four, present and ideal articulation practices in Arkansas public colleges were investigated through the use of Part III of the Faculty and Chief Academic Officer Surveys. Part III consisted of 22 articulation practices, which separate into four categories: Administrative issues, curriculum and instruction issues, interinstitutional relationships, and evaluation issues. A ranked 5-point Likert-type scale was used on the left side to indicate present practices ranking the practices as (1) never occurring to (5) always occurring. Similarly, the right side of the survey was used to collect responses from the groups with respect to their perception of what should be ideal practices. Ideal practices were ranked from (1) unnecessary to (5) essential. Table 11 gives the statement and categories for Part III of the faculty and CAO surveys.

Table 11

Categories for Part III of the Faculty and CAO Surveys

Category	Summarized Statement
Administrative	State leadership supports ease of transfer
	Two-year faculty involved in transfer agreements
	Four-year faculty involved in transfer agreements
	Common numbering system is used
	Grievance procedures are clearly written

(table continues)

Table 11. (Continued)

Category	Summarized Statement
Curriculum and Instruction	Curriculum requirements are the same at both levels
	Business reps are involved in curriculum decisions
	Two-year students are aware of 4-yr requirements
Interinstitutional Relationships	Two-year faculty visit four-year institutions
	Four-year faculty visit two-year institutions
	Shared teaching responsibilities
	Two-year and four-year advisors communicate
	Resources are shared
	Programs are jointly promoted
	Facilities/Equipment are shared
Evaluation	Annual reviews of transfer programs
	Student success measures value of two-year
	Credits seldom lost
	Specialized programs admit students equally
	Transfer students do as well as native students
	Articulation procedures are evaluated annually
	Transfer information available to two-year

In order to evaluate the frequency of current articulation practices, categories were devised with a mean score of 2.3 or below designated as a practice that almost never

occurred, 2.31 – 3.69 as a practice that sometimes occurred, and 3.70 or above as a practice that almost always occurred. In evaluating ideal practices, a scale of 2.3 and below was used to indicate that the practice was almost always unnecessary, a scale of 2.31 – 3.69 indicated that the practice was somewhat essential, and a scale of 3.70 or above indicated that the practice was almost always essential.

The results of comparing the means of present practices and ideal articulation practices using a paired samples *t*-test is included in this section to answer question four. Data were compared and only those statements that gave both a current and ideal response were included in the paired *t*-test. Results are arranged by the categories: Administrative issues, curriculum and instruction issues, interinstitutional relationships, and evaluation issues. A significant finding at the .05 level indicated a difference between the present articulation practice and the ideal practice.

Research questions five and six were addressed on all six surveys. A narrative and a comparison chart are included in the discussion.

Research Question One

As students enter the two-year institutions and develop a program of study, what are their primary perceptions and concerns regarding transfer procedures and articulation practices?

Both two-year and four-year students were asked if a transfer agreement existed between their two-year and four-year colleges. More than half (57.6%) responded "yes" at the two-year level while 58.4% responded in the affirmative at the four-year level. However, 36.2% of the two-year students and 28.0% of the four-year students did not

know if articulation agreements existed. Four-year students (60.5%) indicated that no one visited with them about the transferability of courses prior to transfer.

Transferring from the two-year campus to the four-year campus without loss of credit was most important (a level of 5) to 84.0% of the two-year students and 81.6% of the four-year students. Visiting the four-year campus prior to transfer was most important to 24.9% of the two-year students and 30.3% of the four-year students. Knowing that the two-year and four-year faculty and administration communicate about transfer issues was most important to 54.1% of the two-year students and 47.5% of the four-year students. Understanding what to expect at the four-year campus was most important to 37.5% of the two-year students and 36.9% of the four-year students. Understanding what courses are necessary to complete a bachelor's degree was most important to 70.2% of the two-year students and 75.8% of the four-year students. Obtaining financial aid assistance was most important to 63.7% of two-year students and 58.9% of the four-year students. Meeting with their advisor was most important to 30.0% of the two-year students and 33.3% of the four-year students.

When asked if all of their credits would transfer to the four-year institution, two-year students responded as follows: Yes – 43.3%, no – 12.2%, don't know – 44.2%.

When asked if all of their credits transferred from the two-year institution, four-year students responded as follows: Yes – 62.4%, no – 31.2%, don't know – 6.4%. Two-year students indicated that 34.1% of them had taken courses that wouldn't transfer. Four-year students were asked if their grade point average dropped during the first semester after transfer. Thirty percent indicated that their GPA dropped the first semester.

Response to the statement that students had friends who expressed concern about

transferability of courses at the two-year level was 51.5% and at the four-year level was 62.4%.

In reference to visits to the transfer institution, 46.5% of the two-year students indicated that they had visited the four-year campus while 64.2% of the four-year students indicated that they visited the four-year campus prior to transfer. Two-year students (46.9%) indicated that they had a four-year catalog while 73.6% of the four-year students indicated that they had a four-year catalog prior to transfer. Orientation at the two-year campus was attended by 37.3% of the two-year students. In response to the same question, 37.6% of the four-year students indicated that they attended orientation as a two-year student. Orientation at the four-year level was attended by 31.7% of the four-year students. When asked if it would be beneficial to have a four-year plan of study which would include the courses to be taken at each institution in order to complete the bachelor's degree, 85.4% of the two-year and 87.1% of the four-year stated "yes."

Summary response for question one. Based on the survey results, students (48.2%) at the two-year level have the perception that credits may not transfer to the four-year institution. Four-year students (60.5%) indicated that no one visited with them about the transferability of their courses prior to transfer. On the four-year survey, more than 30% indicated that they took courses at the two-year institution that did not transfer and 62.4% indicated that their friends had the same concern about the transferability of their courses. Just over half of the student population indicated that articulation agreements existed in their area of study.

Based on survey data, students did not think it was important to visit the four-year campus prior to transfer, however a majority (64.2%) of the four-year students surveyed

indicated that they had visited the four-year campus before transfer. Students in the sample did not attend orientation at the two-year or four-year campus. Most students (73.6%) acquired a four-year catalog prior to transfer.

Primary articulation concerns based on the student sample were: Knowing what courses to take at the four-year level including a four-year plan of study which would include courses to be taken at each campus, transferring without loss of credit, and obtaining financial aid.

Research Question Two

What types of articulation procedures are currently being implemented in two-year and four-year public higher education institutions from the viewpoint of faculty and chief academic officers?

Faculty response to question two. Regarding faculty participation in the creation of articulation agreements, both two-year (73.4%) and four-year (64.3%) faculty indicated that they did not participate. From the perspective of faculty, both two-year (88.3%) and four-year (80.0%) faculty indicated that articulation agreements existed. Department-to-department articulation agreements were perceived to exist in their area of expertise by 52.3% of two-year faculty and 31.4% of four-year faculty. In that category, 21.9% of two-year and 35.7% of four-year faculty responded that they did not know if departmental articulation agreements existed. Two-year faculty (69.5%) and four-year faculty (58.6%) used the results of program assessments.

Section III of the two-year and four-year faculty survey addressed current practices. Mean scores were used for this section with means of 2.3 or less indicating a practice that almost never occurred, means of 2.31 – 3.69 indicating a practice that

sometimes occurred, and means of 3.70 or higher indicating a practice that almost always occurred.

No two-year or four-year faculty indicated current practices addressing question two that almost always occurred. The statements addressing research question two under the category of administrative issues included: State leadership supports ease of transfer among public colleges and universities in Arkansas (sometimes – 2-yr. – $M = 3.38$; 4-yr. – $M = 3.56$), faculty of two-year institutions are involved in transfer agreements (sometimes – 2-yr. – $M = 3.06$; 4-yr. – $M = 2.82$), faculty of four-year institutions are involved in transfer agreements (sometimes – 2-yr. – $M = 3.21$; 4-yr. – $M = 2.87$), a common course numbering system is used between transfer institutions (sometimes 2-yr. – $M = 2.50$; never 4-yr. – $M = 2.05$), and grievance procedures for transfer related problems are clearly written and available (sometimes – 2-yr. – $M = 2.84$; 4-yr. – $M = 2.75$).

The two-year and four-year faculty viewed current curriculum and instruction practices as practices that sometimes occurred. Those included: Curriculum requirements at the two-year level are the same as the requirements at the four-year level (sometimes – 2-yr. – $M = 3.63$; 4-yr. – $M = 2.85$), representatives from business/industry are involved in curriculum development/revision for articulated occupational programs (sometimes – 2-yr. – $M = 3.41$; 4-yr. – $M = 2.67$), and students are aware of curriculum requirements in their major field while attending the two-year college (sometimes – 2-yr. – $M = 3.55$; 4-yr. – $M = 2.71$).

The interinstitutional relationships and their rankings included: Faculty at the two-year level visit four-year institutions in their area of instruction (sometimes – 2-yr. –

$M = 2.59$; never – 4-yr. – $M = 1.97$), faculty at the four-year level visit two-year institutions in their areas of instruction (never – 2-yr. – $M = 2.04$; 4-yr. – $M = 2.02$), faculty in articulated programs have shared teaching responsibility between institutions (sometimes – 2-yr. – $M = 2.38$; never – 4-yr. – $M = 1.98$), advisor coordination between transfer institutions provides a communication bridge between campuses for the student (sometimes – 2-yr. – $M = 2.67$; 4-yr. – $M = 2.64$), existing resources are shared between transfer institutions (sometimes – 2-yr. – $M = 2.33$; never – 4-yr. – $M = 1.88$), programs are jointly promoted or marketed by both institutions (sometimes – 2-yr. – $M = 2.50$; never – 4-yr. – $M = 2.05$), and facilities/equipment are shared by both institutions (never – 2-yr. – $M = 1.89$; 4-yr. – $M = 1.64$).

Evaluative issues and their ranking included: Annual reviews and updates of each transfer program are conducted (sometimes – 2-yr. – $M = 3.30$; 4-yr. – $M = 3.02$), student success at the four-year institution is considered an evaluative measurement of two-year instruction (sometimes – 2-yr. – $M = 3.52$; 4-yr. – $M = 2.85$), credits are seldom lost through transfer from two-year to four-year institutions (sometimes – 2-yr. – $M = 3.26$; 4-yr. – $M = 3.11$), students who began their work at the four-year institution are as likely to get admitted into specialized programs as transfer students (sometimes – 2-yr. – $M = 3.50$; always – 4-yr. – $M = 3.71$), transfer students are as likely to do well in junior/senior level courses as native students (always – 2-yr. – $M = 3.72$; 4-yr. – $M = 3.05$), assessment of the articulation procedures is conducted on an annual basis (sometimes – 2-yr. – $M = 3.02$; 4-yr. – $M = 2.44$), and transfer information is available to two-year colleges to monitor the success of their students at the four-year level (sometimes – 2-yr. – $M = 2.82$; 4-yr. – $M = 2.83$).

CAO response to question two. Percentages in this section indicate a "yes" response for the area of articulation. General areas where current articulation agreements exist at the two-year from the perspective of the CAO include: The core curriculum (100.0%), Business/Technology (56.5%), English (52.2%), and Social Sciences (52.2%). From the four-year CAO perspective, general areas where current articulation agreements exist include the core curriculum (100.0%), Education (66.7%), English (55.6%), Social Sciences (55.6%), Arts/Humanities (55.6%), Math/Science (55.6%), Technical Areas (55.6%), Agriculture (55.6%), and Business/Technology (55.6%).

When asked if the chief academic officer was the primary person responsible for initiating articulation agreements, 69.6% of two-year and 44.4% of four-year CAOs responded "yes." Regarding departmental articulation agreements, 69.6% of two-year and 75.0% of four-year CAOs responded that department-to-department articulation agreements were in place. From the viewpoint of two-year CAOs, transfer agreements are contingent upon the completion of an associate degree (60.9%), CAOs sign all transfer agreements (60.9%), and assessment results are used to evaluate transfer characteristics (60.9%). However, four-year CAOs had a different viewpoint with 62.5% indicating that transfer agreements are not contingent upon the completion of an associate degree, 55.6% do not sign articulation agreements, and assessment results are either not used (33.3%) or the CAO did not know if results were used (44.4%) to evaluate transfer characteristics.

Section III of the two-year and four-year CAO survey addressed current practices. Mean scores were used for this section with means of 2.3 or less indicating a practice that

almost never occurred, means of 2.31 – 3.69 indicating a practice that sometimes occurred, and means of 3.70 or higher indicating a practice that almost always occurred.

Administrative issues as viewed by two-year chief academic officers included:

State leadership supports ease of transfer among public colleges and universities in Arkansas (sometimes – 2-yr. – $M = 3.48$; always – 4-yr. – $M = 4.33$), faculty of two-year institutions are involved in transfer agreements (sometimes – 2-yr. – $M = 3.39$; 4-yr. – $M = 3.50$), faculty of four-year institutions are involved in transfer agreements (sometimes – 2-yr. – $M = 3.27$; 4-yr. – $M = 3.50$), a common course numbering system is used between transfer institutions (never – 2-yr. – $M = 1.91$; sometimes – 4-yr. – $M = 2.33$), and grievance procedures for transfer related problems are clearly written and available (sometimes – 2-yr. – $M = 3.35$; 4-yr. – $M = 3.22$).

The two-year and four-year CAOs viewed current curriculum and instruction practices as follows: Curriculum requirements at the two-year level are the same as the requirements at the four-year level (always – 2-yr. – $M = 3.91$; sometimes – 4-yr. – $M = 3.25$), representatives from business/industry are involved in curriculum development/revision for articulated occupational programs (always – 2-yr. – $M = 4.26$; sometimes – 4-yr. – $M = 2.88$), and students are aware of curriculum requirements in their major field while attending the two-year college (always – 2-yr. – $M = 3.74$; sometimes – 4-yr. – $M = 3.25$).

On the two-year and four-year CAO surveys, administrators responded that current practices in the area of interinstitutional relationships and their rankings were: Faculty at the two-year level visit four-year institutions in their area of instruction (sometimes – 2-yr. – $M = 2.70$; 4-yr. – $M = 2.75$), faculty at the four-year level visit two-

year institutions in their area of instruction (never – 2-yr. – $M = 1.96$; sometimes – 4-yr. – $M = 2.78$), faculty in articulated programs have shared teaching responsibility between institutions (never – 2-yr. – $M = 1.52$; never – 4-yr. – $M = 2.11$), advisor coordination between transfer institutions provides a communication bridge between campuses for the student (sometimes – 2-yr. – $M = 3.09$; 4-yr. – $M = 3.11$), resources are shared between institutions (sometimes – 2-yr. – $M = 2.45$; never – 4-yr. – $M = 2.00$), programs are jointly promoted or marketed by both institutions (never – 2-yr. – $M = 2.14$; sometimes – 4-yr. – $M = 2.67$), and facilities/equipment are shared by both institutions (never – 2-yr. – $M = 2.04$; 4-yr. – $M = 2.00$).

CAOs responded to the evaluation characteristics in the following way: Annual reviews and updates of each transfer program are conducted (sometimes – 2-yr. – $M = 3.35$; 4-yr. – $M = 3.44$), student success at the four-year institution is considered an evaluative measurement of two-year instruction (always – 2-yr. – $M = 3.78$; sometimes – 4-yr. – $M = 3.38$), credits are seldom lost through transfer from two-year to four-year institutions (sometimes – 2-yr. – $M = 3.48$; 4-yr. – $M = 3.13$), students who began their work at the four-year institution are as likely to get admitted into specialized programs as transfer students (always – 2-yr. – $M = 3.71$; 4-yr. – $M = 3.75$), transfer students are as likely to do well in junior/senior level courses as native students (always – 2-yr. – $M = 4.04$; sometimes – 4-yr. – $M = 3.50$), assessment of the articulation procedures is conducted on an annual basis (sometimes – 2-yr. – $M = 2.52$; 4-yr. – $M = 3.25$), and transfer information is available to two-year colleges to monitor the success of their students at the four-year level (sometimes – 2-yr. – $M = 2.39$; 4-yr. – $M = 3.00$).

Comparisons of current articulation practices. Table 12 indicates a comparison of current articulation practices from the viewpoint of faculty and CAOs. Most categories indicated that the articulation practices sometimes occurred. A notable finding was that both faculty and CAOs agreed that facilities and equipment are currently never shared. Two-year faculty and CAOs and four-year faculty indicated that four-year faculty do not currently visit the two-year institutions. Specialized programs currently admit students equally from the viewpoint of four-year faculty and both two-year and four-year CAOs.

Table 12

Comparison of Current Articulation Procedures

Category	Statement	Faculty		CAOs	
		2-yr	4-yr	2-yr	4-yr
Admin	State Leadership support ease of transfer	S	S	S	A
Admin	2-yr faculty are involved in agreements	S	S	S	S
Admin	4-yr faculty are involved in agreements	S	S	S	S
Admin	A common course numbering system is used	S	N	N	S
Admin	Grievance procedures are written/available	S	S	S	S
C & I	Curriculum requirements are the same	S	S	A	S
C & I	Business/Industry reps are involved	S	S	A	S
C & I	Two-yr. students aware of 4-yr requirements	S	S	A	S
IR	Two-year faculty visit four-year institutions	S	N	S	S

(table continues)

Table 12. (continued)

Category	Statement	Faculty		CAOs	
		2-yr	4-yr	2-yr	4-yr
IR	Four-year faculty visit two-year institutions	N	N	N	S
IR	Faculty have shared teaching responsibilities	S	N	N	S
IR	Two-year and four-year advisors communicate	S	S	S	S
IR	Resources are shared between institutions	S	N	S	N
IR	Programs are jointly promoted	S	N	N	S
IR	Facilities and equipment are shared	N	N	N	N
Eval	Annual reviews/updates of transfer programs	S	S	S	S
Eval	Student success measures value of two-year	S	S	A	S
Eval	Credits are seldom lost in transfer	S	S	S	S
Eval	Specialized programs admit students equally	S	A	A	A
Eval	Transfer students do as well as native students	A	S	A	S
Eval	Annual assessment of articulation procedures	S	S	S	S
Eval	Transfer information is available to two-year	S	S	S	S

Note: Admin = Administrative Issues; C & I = Curriculum and Instruction Issues; IR = Interinstitutional Relationships; Eval = Evaluation Issues

N = Almost Never Occurred; S = Sometimes Occurred; A = Almost Always Occurred

Summary response for question two. Every CAO indicated that articulation agreements existed with their institution. Other than the core, the types of articulation practices currently being implemented are primarily from departments within the institution. Some institutions have course-to-course articulations. Sometimes, faculty participated in the initiation of articulation agreements. The CAO is the primary person responsible for initiating agreements on the two-year campus, but not on the four-year campus. The completion of an associate degree is important to two-year CAOs, but not as important to four-year CAOs. It is perceived that specialized programs admit students equally. Four-year faculty seldom visit two-year institutions.

Four-year faculty and two-year CAOs shared the viewpoints that a common course numbering system is almost never used, faculty almost never have shared teaching responsibilities, and programs are almost never jointly promoted. Two-year faculty and two-year CAOs indicated that transfer students almost always do as well as native students.

Research Question Three

What aspects of developing program-to-program articulation agreements should ideally be included to gain the support of faculty and chief academic officers?

Faculty response to question three. "What is important to you?" was the title of Part II of the faculty survey. Faculty ranked areas of importance from least important (1) to most important (5). Discussing degree plans with advisees was most important to 33.3% of the two-year faculty and 75.7% of the four-year faculty. The survey questioned two-year faculty about the importance of having transferability of the courses they teach and the importance of having articulation agreements with the four-year institution. Two-

- year faculty (56.7%) indicated that it was most important to them for the courses they teach to transfer and to have articulation agreements in their area of expertise. Four-year faculty were asked about the importance of the transferability of the courses from the two-year institution and the importance of having transfer agreements with their two-year counterparts. The four-year faculty survey indicated that 29.0% of the sample group responded that transferability of the courses was most important and 20.6% indicated that having articulation agreements was most important in their area of expertise.

Encouraging advisees to visit the four-year campus prior to transfer was most important to 13.4% of the two-year faculty and 10.0% of the four-year faculty. Visiting the cooperating campus was most important to 4.7% of the two-year faculty and 0.0% of the four-year faculty. Discussing transfer options and procedures with advisees rated most important with 26.8% of the two-year faculty. This question was not on the four-year survey. Having a good working relationship with instructors at the same level was most important to 28.6% of the two-year instructors and 10.1% of the four-year instructors. Having a good working relationship with instructors at transfer institutions was most important to 21.3% of the two-year faculty and 5.8% of the four-year faculty. Receiving information about curriculum changes was most important to 36.2% of two-year faculty and 8.7% of the four-year faculty.

Part IV of the faculty survey included questions about articulation procedures that would benefit the faculty member. The development of a four-year plan of study, to include courses at the two-year and four-year institution, received a positive response from two-year faculty (78.9%) and four-year faculty (75.7%). Also, the development of a tracking system, which would allow for information on transfer students to be accessible

yielded a positive answer from 89.1% of the two-year faculty and 75.7% from the four-year faculty.

The ideal practices section of Part III of the faculty survey was used to answer research question three. Mean scores are presented in this section with 2.3 or below as almost always unnecessary, 2.31 – 3.69 as somewhat essential, and 3.70 or above as almost always essential.

The statements addressing research question three under the category of Administrative Issues included: State leadership should support ease of transfer among public colleges and universities in Arkansas (essential – 2-yr. – $M = 4.52$; 4-yr. – $M = 4.15$), faculty of two-year institutions should be involved in transfer agreements (essential – 2-yr. – $M = 4.25$; somewhat essential 4-yr. $M = 3.54$), faculty of four-year institutions should be involved in transfer agreements (essential – 2-yr. – $M = 4.11$; 4-yr. – $M = 4.03$), a common course numbering system should be used between transfer institutions (essential 2-yr. – $M = 3.94$; somewhat essential 4-yr. – $M = 3.34$), and grievance procedures for transfer related problems should be clearly written and available (essential – 2-yr. – $M = 4.11$; 4-yr. – $M = 3.86$).

The two-year and four-year faculty viewed ideal curriculum and instruction practices as relatively essential. Those included: Curriculum requirements at the two-year level should be the same as the requirements at the four-year level (essential – 2-yr. – $M = 4.24$; 4-yr. – $M = 3.98$), representatives from business/industry should be involved in curriculum development/revision for articulated occupational programs (essential – 2-yr. – $M = 4.12$; somewhat essential – 4-yr. – $M = 3.57$), and students should be aware of

curriculum requirements in their major field while attending the two-year college (essential – 2-yr. – $M = 4.66$; 4-yr. – $M = 4.64$).

The ideal interinstitutional relationships and their rankings included: Faculty at the two-year level should visit the four-year institutions in their area of instruction (somewhat essential – 2-yr – $M = 3.60$; 4-yr. – $M = 3.10$), faculty at the four-year level should visit the two-year institutions in their area of instruction (somewhat essential – 2-yr – $M = 3.64$; 4-yr. – $M = 3.05$), faculty in articulated programs should have shared teaching responsibility between institutions (somewhat essential – 2-yr. – $M = 3.20$; 4-yr. – $M = 2.68$), advisor coordination between transfer institutions should provide a communication bridge between campuses for the student (essential – 2-yr. – $M = 3.90$; 4-yr. – $M = 3.85$), existing resources should be shared between transfer institutions (somewhat essential – 2-yr. – $M = 3.60$; 4-yr. $M = 2.83$), programs should be jointly promoted or marketed by both institutions (essential – 2-yr. – $M = 3.80$; 4-yr. – $M = 3.34$), and facilities/equipment should be shared by both institutions (somewhat essential – 2-yr. – $M = 3.21$; 4-yr. – $M = 2.46$).

Evaluative issues and their ranking included: Annual reviews and updates of each transfer program should be conducted (essential – 2-yr. – $M = 4.18$; 4-yr. $M = 3.88$), student success at the four-year institution should be considered an evaluative measurement of two-year instruction (essential – 2-yr. – $M = 3.93$; somewhat essential – 4-yr. – $M = 3.47$), credits are seldom lost through transfer from two-year to four-year institutions (essential – 2-yr. – $M = 4.26$; somewhat essential – 4-yr – $M = 3.68$), students who began their work at the four-year institution should be as likely to get admitted into specialized programs as transfer students (essential – 2-yr. – $M = 4.15$; 4-yr. – $M = 4.07$),

transfer students should be as likely to do well in junior/senior level courses as native students (essential – 2-yr. – $M = 4.46$; 4-yr. – $M = 4.13$), assessment of the articulation procedures should be conducted on an annual basis (essential – 2-yr. – $M = 4.07$; somewhat essential – 4-yr. – $M = 3.67$), and transfer information should be available to two-year colleges to monitor the success of their students at the four-year level (essential – 2-yr. – $M = 4.41$; 4-yr. – $M = 3.84$).

CAO response to question three. From Part II of the CAO survey, questions were asked relating to research question three and the importance of articulation practices. CAOs ranked areas of importance from least important (1) to most important (5). Two-year CAOs (87.0%) indicated that transferability of courses from two-year to four-year institutions was most important to them. The percentage of four-year CAOs rating transferability as most important was 50.0%. Having transfer agreements was most important to 68.2% of two-year CAOs while being most important to 87.5% of four-year CAOs. Encouraging faculty to visit their counterparts was most important to 11.1% of the two-year CAOs and 12.5% of the four-year CAOs. Encouraging students to visit the transfer campus was most important to 38.1% of the two-year CAOs and 37.5% of the four-year CAOs. Encouraging faculty from the corresponding campus to visit was most important to 15.0% of the two-year CAOs and 25.0% of the four-year CAOs. None of the two-year or four-year CAOs surveyed considered it important to train faculty to develop articulation agreements. Having course-to-course articulation guides for state institutions was most important to 38.1% of two-year CAOs and 62.5% of four-year CAOs. Getting feedback on transfer students was most important to 30.4% of two-year CAOs. Giving feedback to two-year institutions was most important to 37.5% of four-

year CAOs. Having information about curriculum changes was most important to 62.5% of two-year CAOs and 36.4% of the four-year CAOs. Good communication with the four-year CAO was most important to 26.3% of the two-year CAOs and good communication with the two-year CAO was most important to 87.5% of the four-year CAOs.

A four-year plan of study to include courses taken at the two-year and the four-year institution would be helpful to 92.3% of the two-year CAOs and 44.4% of the four-year CAOs. On that question, 33.3% of the four-year CAOs and 4.3% of the two-year CAOs did not know if a four-year plan would be helpful. A tracking system would be beneficial to 100.0% of both four-year and two-year CAOs.

The ideal practices section of Part III of the CAO survey was also used to answer research question three. Mean scores are presented in this section with 2.3 or below as almost always unnecessary, 2.31 – 3.69 as somewhat essential, and 3.70 or above as almost always essential.

Ideal administrative issues as viewed by two-year chief academic officers included: State leadership should support ease of transfer among public colleges and universities in Arkansas (essential – 2-yr. – $M = 4.86$; 4-yr. – $M = 4.38$), faculty of two-year institutions should be involved in transfer agreements (essential – 2-yr. – $M = 4.10$; 4-yr. – $M = 3.88$), faculty of four-year institutions should be involved in transfer agreements (essential – 2-yr. – $M = 4.19$; 4-yr. – $M = 4.29$), a common course numbering system should be used between transfer institutions (essential – 2-yr. – $M = 4.10$; somewhat essential – 4-yr. – $M = 3.29$), and grievance procedures for transfer related

problems should be clearly written and available (essential – 2-yr. – $M = 4.52$; 4-yr. – $M = 4.25$).

The two-year and four-year CAOs viewed ideal curriculum and instruction practices as follows: Curriculum requirements at the two-year level should be the same as requirements at the four-year level (essential – 2-yr. – $M = 4.43$; 4-yr. – $M = 4.00$), representatives from business and industry should be involved in curriculum development or revision for articulated occupational programs (essential – 2-yr. – $M = 4.62$; 4-yr. – $M = 3.71$), and students should be aware of curriculum requirements in their major field while attending the two-year college (essential – 2-yr. – $M = 4.81$; 4-yr. – $M = 4.38$).

On the two-year and four-year CAO surveys, administrators responded that ideal practices in the area of interinstitutional relationships and their rankings were: Faculty at the two-year level should visit four-year institutions in their area of instruction (essential – 2-yr. – $M = 3.71$; somewhat essential – 4-yr. – $M = 3.63$), faculty at the four-year level should visit two-year institutions in their area of instruction (somewhat essential – 2-yr. – $M = 3.67$; essential – 4-yr. – $M = 3.75$), faculty in articulated programs should have shared teaching responsibility between institutions (somewhat essential – 2-yr. – $M = 2.75$; 4-yr. – $M = 2.75$), advisor coordination between transfer institutions should provide a communication bridge between campuses for the student (essential – 2-yr. – $M = 4.43$; 4-yr. – $M = 4.25$), resources should be shared between institutions (somewhat essential – 2-yr. – $M = 2.95$; 4-yr. – $M = 2.63$), programs should be jointly promoted or marketed by both institutions (essential – 2-yr. – $M = 3.80$; 4-yr. – $M = 4.13$), and facilities/equipment should be shared by both institutions (somewhat essential – 2-yr. – $M = 3.10$; 4-yr. – $M = 2.86$).

CAOs responded to ideal evaluation characteristics in the following way: Annual reviews and updates of each transfer program should be conducted (essential – 2-yr. – $M = 4.38$; 4-yr. – $M = 4.00$), student success at the four-year institution should be considered an evaluative measurement of two-year instruction (essential – 2-yr. – $M = 4.05$; 4-yr. – $M = 4.25$), credits should be seldom lost through transfer from two-year to four-year institutions (essential – 2-yr. – $M = 4.57$; 4-yr. – $M = 4.00$), students who began their work at the four-year institution should be as likely to get admitted into specialized programs as transfer students (essential – 2-yr. – $M = 4.47$; 4-yr. – $M = 3.88$), transfer students should be as likely to do well in junior/senior level courses as native students (essential – 2-yr. – $M = 4.48$; 4-yr. – $M = 4.00$), assessment of the articulation procedures should be conducted on an annual basis (essential – 2-yr. – $M = 4.29$; 4-yr. – $M = 4.13$), and transfer information should be available to two-year colleges to monitor the success of their students at the four-year level (essential – 2-yr. – $M = 4.81$; 4-yr. – $M = 3.71$).

Comparisons of ideal articulation practices. Table 13 indicates a comparison of ideal articulation practices from the viewpoint of faculty and CAOs. Most statements were considered to be almost always essential to ideal articulation practices from at least one viewpoint. Data revealed that ten statements were considered to be almost always essential from the viewpoint of two-year and four-year faculty and CAOs: State leadership should support the ease of transfer, four-year faculty should be involved in articulation agreements, grievance procedures should be written and available, curriculum requirements should be the same at both the two-year and four-year levels for the same courses, two-year students should be aware of the four-year requirements at the transfer institution, two-year and four-year advisors should provide a communication

bridge between campuses for the students, annual reviews and updates of each transfer program should be conducted, both transfer and native students should be equally admitted to specialized programs, transfer students should do as well in junior/senior level courses as native students, and transfer information should be available to two-year colleges to monitor the success of their students at the four-year level.

The statements that faculty should have shared teaching responsibilities between institutions, resources should be shared, and facilities/equipment should be shared between institutions received somewhat essential ratings from faculty and CAOs. No categories were marked as almost always unnecessary. Two-year CAOs indicated that 18 of the 22 articulation practices listed in Part III of the survey were almost always essential in an ideal environment. Two-year faculty and four-year CAOs indicated that 17 of the practices were almost always essential and four-year faculty viewed 10 of the practices as almost always essential. Results are indicated in Table 13.

Table 13

Comparison of Ideal Articulation Procedures as Viewed by Faculty and CAOs

Category	Statement	Faculty		CAOs	
		2-yr	4-yr	2-yr	4-yr
Admin	State Leadership supports ease of transfer	E	E	E	E
Admin	2-yr faculty involved in agreements	E	S	E	E
Admin	4-yr faculty involved in agreements	E	E	E	E

(table continues)

Table 13. (continued)

Category	Statement	Faculty		CAOs	
		2-yr	4-yr	2-yr	4-yr
Admin	Common course numbering system	E	S	E	S
Admin	Grievance procedures written/available	E	E	E	E
C & I	Curriculum requirements same at both levels	E	E	E	E
C & I	Business/Industry reps involved	E	S	E	E
C & I	Two-year students aware of requirements	E	E	E	E
IR	Two-year faculty visit four-year institutions	S	S	E	S
IR	Four-year faculty visit two-year institutions	S	S	S	E
IR	Faculty share teaching responsibilities	S	S	S	S
IR	Two-year/four-year advisors communicate	E	E	E	E
IR	Resources shared between institutions	S	S	S	S
IR	Programs jointly promoted	E	S	E	E
IR	Facilities and equipment shared	S	S	S	S
Eval	Annual reviews/updates of transfer programs	E	E	E	E
Eval	Student success measures value of two-year	E	S	E	E
Eval	Credits seldom lost in transfer	E	S	E	E
Eval	Specialized programs admit students equally	E	E	E	E

(table continues)

Table 13. (continued)

Category	Statement	Faculty		CAOs	
		2-yr	4-yr	2-yr	4-yr
Eval	Specialized programs admit students equally	E	E	E	E
Eval	Transfer students do as well as native students	E	E	E	E
Eval	Annual assessment of articulation procedures	E	S	E	E
Eval	Transfer information is available to two-year	E	E	E	E

Note: Admin = Administrative Issues; C & I = Curriculum and Instruction Issues; IR = Interinstitutional Relationships; Eval = Evaluation Issues

U = Almost Unnecessary; S = Somewhat Essential; E = Almost Always Essential

Summary response to question three. Aspects of articulation agreements that should be included to gain the support of faculty and CAOs are listed as follows: A four-year plan of study should be developed which indicates what courses should be taken at each institution, a statewide tracking system should be incorporated to provide information on the performance of transfer students, state leadership should support the ease of transfer, four-year faculty should be involved in articulation agreements, grievance procedures should be written and available, curriculum requirements should be the same at both the two-year and four-year levels for the same courses, two-year students should be aware of the four-year requirements at the transfer institution, two-year and four-year advisors should provide a communication bridge between campuses for the students, annual reviews and updates of each transfer program should be

conducted, both transfer and native students should be equally admitted to specialized programs, transfer students should do as well in junior/senior level courses as native students, and transfer information should be available to two-year colleges to monitor the success of their students at the four-year level.

In addition, four-year faculty indicated it is important to discuss degree plans with students prior to transfer and four-year CAOs indicated that course-to-course articulation guides should be further developed. Two-year CAOs indicated that notification of four-year curriculum changes would be helpful. Another aspect considered ideally essential from the two-year viewpoint was having a common course numbering system. Two-year faculty and two-year and four-year CAOs supported having business/industry representatives involved in curriculum development/revision for articulated occupational programs, having programs jointly supported, and viewing student success at the four-year institution as an evaluative measurement of the two-year instruction. Only two-year CAOs indicated it was essential to have two-year faculty visit four-year institutions while only four-year CAOs indicated that it was essential to have four-year faculty visit two-year institutions.

Research Question Four

Is there a significant difference between present articulation practices and ideal articulation practices as perceived by faculty and chief academic officers?

The results of comparing the means of present practices and ideal articulation practices using a paired samples *t*-test was used to answer question four. Data were compared and only those statements that received both a current and ideal response were compared using a paired *t*-test. Results are arranged by the categories: Administrative

issues, curriculum and instruction issues, interinstitutional relationships, and evaluation issues. A significance at the .05 level indicated a difference between the present articulation practice and the ideal practice.

Current vs ideal administrative practices. A significant difference ($p < .001$) was found to exist between current and ideal administrative practices as viewed by two-year faculty. Table 14 indicates the results.

Table 14

Paired Samples *t*-test for Two-Year Faculty in the Category of Administrative Issues

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Leadership Sup.	104	-1.1827	-12.657	103	.000****
2-yr Involved	97	-1.2887	-10.910	96	.000****
4-yr Involved	87	-.9425	-9.075	86	.000****
Common Course	102	-1.6373	-11.534	101	.000****
Grievance Proc.	98	-1.3367	-9.827	97	.000****

Note: **** $p < .001$.

A significant difference ($p < .001$) was found to exist between current and ideal administrative practices as viewed by four-year faculty. Table 15 indicates the results.

Table 15

Paired Samples *t*-test for Four-Year Faculty in the Category of Administrative Issues

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Leadership Sup.	58	-.6897	-5.279	57	.000****
2-yr Involved	49	-.8571	-4.591	48	.000****
4-yr Involved	54	-1.2778	-8.490	53	.000****
Common Course	55	-1.5091	-7.851	54	.000****
Grievance Proc.	49	-1.1224	-6.637	48	.000****

Note: **** $p < .001$.

A significant difference ($p < .001$) was found to exist between current and ideal administrative practices as viewed by two-year CAOs in all categories except four-year faculty involvement in transfer agreements which was significant at the .01 level of significance. Table 16 indicates the results.

Table 16

Paired Samples *t*-test for Two-Year CAOs in the Category of Administrative Issues

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Leadership Sup.	21	-1.4286	-6.367	20	.000****
2-yr Involved	21	-.7619	-4.202	20	.000****
4-yr Involved	13	-.8462	-3.811	12	.002***
Common Course	21	-2.1905	-6.827	20	.000****
Grievance Proc.	21	-2.1429	-7.071	20	.000****

Note: *** $p < .01$. **** $p < .001$.

Four-year CAO surveys indicated no significant difference between current and ideal practices in most of the administrative categories. The only significant difference ($p < .05$) occurred in the common course numbering system category. Table 17 indicates the results.

Table 17

Paired Samples *t*-test for Four-Year CAOs in the Category of Administrative Issues

Characteristic	Paired Differences				
	<i>N</i>	<i>t</i>	<i>M</i>	<i>df</i>	Significance (2-tailed)
Leadership Sup.	8	.000	.0000	7	1.000*
2-yr Involved	7	-1.162	-.4286	6	.289*
4-yr Involved	7	-2.121	-.8571	6	.078*
Common Course	7	-2.489	-1.1429	6	.047**
Grievance Proc.	8	-1.825	-.8750	7	.111*

Note: * no significant difference. ** $p < .05$.

Table 18 indicates a summary of the significant differences between current and ideal administrative practices as viewed by each comparison group. Two-year and four-year faculty had significant differences ($p < .001$) in all areas. Two-year CAOs had similar viewpoints. Four-year CAO surveys indicated some significant differences but not to the same level of significance as the other groups.

Table 18

Paired Samples *t*-test Summary of Administrative Issues

Characteristic	Paired Differences			
	Significance (2-tailed)			
	2-yr Faculty	4-yr Faculty	2-yr CAOs	4-yr CAOs
Leadership Sup.	.000****	.000****	.000****	1.000*
2-yr Involved	.000****	.000****	.000****	.289*
4-yr Involved	.000****	.000****	.002***	.078*
Common Course	.000****	.000****	.000****	.047**
Grievance Proc.	.000****	.000****	.000****	.111*

Note: * No significant difference. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Current vs ideal curriculum and instruction practices. A significant difference ($p < .001$) was found to exist between current and ideal curriculum and instruction practices as viewed by two-year faculty. Those characteristics included curriculum requirements are the same at both the two-year level and the four-year level for the same courses, representatives from business/industry are involved in curriculum development/revision for articulated occupational programs, and students are aware of curriculum requirements in their major field while attending the two-year college. Table 19 indicates the results.

Table 19

Paired Samples *t*-test for Two-Year Faculty in the Category of Curriculum and Instruction

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Curriculum Equal	102	-.6863	-7.694	101	.000****
Bus/Ind Involved	101	-.7822	-8.231	100	.000****
Stud. know requirements	104	-1.2115	-11.383	103	.000****

Note: **** $p < .001$.

A significant difference ($p < .001$) was found to exist between current and ideal curriculum and instruction practices as viewed by four-year faculty. Those characteristics included curriculum requirements are the same at both the two-year level and the four-year level for the same courses, representatives from business/industry are involved in curriculum development/revision for articulated occupational programs, and students are aware of curriculum requirements in their major field while attending the two-year college. Table 20 indicates the results.

Table 20

Paired Samples *t*-test for Four-Year Faculty in the Category of Curriculum and Instruction

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Curriculum Equal	55	-1.2364	-6.486	54	.000****
Bus/Ind Involved	49	-.8980	-5.694	48	.000****
Stud. know requirements	51	-2.1176	-13.441	50	.000****

Note: **** $p < .001$.

A significant difference ($p < .001$) was found to exist between current and ideal curriculum and instruction practices as viewed by two-year CAOs for the statements that curriculum requirements are the same at both levels and two-year students are aware of the four-year requirements. Significance at the .05 level occurred for the statement that business and industry representatives are involved in curriculum decisions. Table 21 indicates the results.

Table 21

Paired Samples *t*-test for Two-Year CAOs in the Category of Curriculum and Instruction

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Curriculum Equal	21	-.4762	-4.264	20	.000****
Bus/Ind Involved	21	-.3333	-2.320	20	.031**
Stud. know requirements	21	-1.0000	-5.916	20	.000****

Note: ** $p < .05$. **** $p < .001$.

Table 22 compares the means of the statements under the category of curriculum and instruction issues as perceived by four-year CAOs. Current practices were compared with ideal practices. Significant differences occurred for the statements regarding business/industry representatives being involved in curriculum development/revisions for occupational programs and the awareness of curriculum requirements for students while attending the two-year institution.

Table 22

Paired Samples *t*-test for Four-Year CAOs in the Category of Curriculum and Instruction

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Curriculum Equal	7	-.7143	-1.698	6	.140*
Bus/Ind Involved	7	-1.0000	-3.240	6	.018**
Stud. know requirements	8	-1.1250	-3.211	7	.015**

Note: * no significant difference. ** $p < .05$.

Table 23 indicates a summary of the significant differences between current and ideal curriculum and instruction practices as viewed by each comparison group. Two-year and four-year faculty had significant differences ($p < .001$) in all areas. Two-year CAOs had similar viewpoints. Four-year CAO surveys indicated some significant differences but not to the same level of significance as the other groups.

Table 23

Paired Samples *t*-test Summary of Curriculum and Instruction Practices

Characteristic	Paired Differences			
	Significance (2-tailed)			
	2-yr Faculty	4-yr Faculty	2-yr CAOs	4-yr CAOs
Curriculum Equal	.000****	.000****	.000****	.140*
Bus/Ind Involved	.000****	.000****	.031**	.018**
Stud. know requirements	.000****	.000****	.000****	.015**

Note: * No significant difference. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Current vs ideal interinstitutional practices. A significant difference ($p < .001$) was found to exist between current and ideal interinstitutional relationships as viewed by two-year faculty. Characteristics included: Faculty at the two-year level visit the four-year institution, faculty at the four-year visit the two-year campus, faculty have shared teaching responsibilities, advisor coordination between transfer institutions provides a communication bridge between campuses for the student, existing resources are shared, programs are jointly promoted/marketed, and facilities and equipment are shared between institutions. Table 24 indicates the results.

Table 24

Paired Samples *t*-test for Two-Year Faculty in the Category Interinstitutional Relationships

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
2-yr to 4-yr fac.	98	-1.0612	-9.305	97	.000****
4-yr to 2-yr fac.	101	-1.6832	-12.829	100	.000****
Shared teaching	95	-.8842	-7.452	94	.000****
Advisor Coord.	100	-1.3200	-11.903	99	.000****
Resources Shared	93	-1.4409	-11.738	92	.000****
Joint Promo.	96	-1.4583	-11.378	95	.000****
Facilities Shared	100	-1.3700	-10.667	99	.000****

Note: **** $p < .001$.

A significant difference ($p < .001$) existed in every area of interinstitutional relationships from the four-year faculty viewpoint.

Table 25

Paired Samples *t*-test for Four-Year Faculty in the Category Interinstitutional Relationships

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
2-yr to 4-yr fac.	55	-1.1636	-5.850	54	.000****
4-yr to 2-yr fac.	55	-1.0545	-5.560	54	.000****
Shared teaching	53	-.6981	-4.284	52	.000****
Advisor Coord.	55	-1.4182	-9.558	54	.000****
Resources Shared	51	-.9608	-5.568	50	.000****
Joint Promo.	53	-1.3396	-7.772	52	.000****
Facilities Shared	53	-.8302	-5.559	52	.000****

Note: **** $p < .001$.

The two-year CAO survey indicated a significant difference ($p < .001$) in every area except one, which was significant at the .01 level in the interinstitutional relationship category. The characteristic with $p < .01$ was regarding existing resources shared between transfer institutions. Table 26 indicates the results.

Table 26

Paired Samples *t*-test for Two-Year CAOs in the Category Interinstitutional Relationships

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
2-yr to 4-yr fac.	21	-1.0476	-5.215	20	.000****
4-yr to 2-yr fac.	21	-1.7619	-6.03	20	.000****
Shared teaching	20	-1.3000	-5.151	19	.000****
Advisor Coord.	21	-1.3333	-5.104	20	.000****
Resources Shared	19	-1.0000	-3.775	18	.001***
Joint Promo.	20	-1.7000	-5.840	19	.000****
Facilities Shared	21	-1.0467	-3.632	20	.002****

Note: *** $p < .01$. **** $p < .001$.

The comparison of the means of current and ideal articulation practices as viewed by four-year CAOs in the category of interinstitutional relationships is listed in table 27. Data revealed significance at the .01 level in the area of four-year faculty visits to the two-year institutions, advisor communication to help bridge transfer processes for students, and programs of study being jointly promoted for both campuses. At the .05 level of significance, areas included: Two-year faculty visits to the four-year campus, shared resources, and shared equipment and facilities.

Table 27

Paired Samples *t*-test for Four-Year CAOs in the Category Interinstitutional Relationships

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
2-yr to 4-yr fac.	7	-1.0000	-3.240	6	.018**
4-yr to 2-yr fac.	8	-1.1250	-4.965	7	.002***
Shared teaching	8	-.6250	-1.930	7	.095*
Advisor Coord.	8	-1.0000	-3.742	7	.007***
Resources Shared	8	-.7500	-2.393	7	.048**
Joint Promo.	8	-1.5000	-3.550	7	.009***
Facilities Shared	7	-.8571	-2.521	6	.045**

Note: * no significant difference. ** $p < .05$. *** $p < .01$.

Table 28 indicates a summary of the significant differences between current and ideal interinstitutional practices as viewed by each comparison group. Two-year and four-year faculty had significant differences ($p < .001$) in all areas. Two-year CAOs had similar viewpoints. Four-year CAO surveys indicated some significant differences but not to the same level of significance as the other groups.

Table 28

Paired Samples *t*-test Summary of Interinstitutional Issues

Characteristic	Paired Differences			
	Significance (2-tailed)			
	2-yr Faculty	4-yr Faculty	2-yr CAOs	4-yr CAOs
2-yr to 4-yr fac	.000****	.000****	.000****	.018**
4-yr to 2-yr fac.	.000****	.000****	.000****	.002***
Shared teaching	.000****	.000****	.000****	.095*
Advisor Coord.	.000****	.000****	.000****	.007***
Resources Shared	.000****	.000****	.001***	.048**
Joint Promo.	.000****	.000****	.000****	.009***
Facilities Shared	.000****	.000****	.002***	.045**

Note: * No significant difference. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Current vs ideal evaluation practices. In the category of evaluation issues, a significant difference ($p < .001$) was indicated in every area as viewed by two-year faculty. Characteristics included: Annual reviews and updates of each transfer program are conducted, student success at the four-year institution is considered an evaluative measurement of two-year instruction, credits are seldom lost through transfer from two-year to four-year institutions, native students and transfer students are admitted equally to specialized programs of study, transfer students do as well in junior/senior level courses

as native students, annual assessment of articulation procedures is conducted, and transfer information is available to two-year colleges to monitor the success of their students at the four-year level.

Table 29

Paired Samples *t*-test for Two-Year Faculty in the Category of Evaluation

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Annual Reviews	101	-1.0198	-9.774	100	.000****
Student Success	102	-.4608	-3.827	101	.000****
Credit Loss	101	-1.0594	-7.318	100	.000****
Spec. Programs	92	-.6739	-7.256	91	.000****
Trans. vs Native	100	-.7400	-8.070	99	.000****
Articulation Proc.	97	-1.2784	-10.598	96	.000****
Trans. Info. Avail.	100	-1.7000	-12.573	99	.000****

Note: **** $p < .001$.

In the category of evaluation, four-year faculty surveys indicated a significant difference ($p < .001$) between current and ideal practices in the areas of annual reviews of transfer programs, student success measure the value of the two-year institution instruction, transfer students do as well as native students, articulation procedures are evaluated annually, and transfer information is available to the two-year campus.

Further, a significant difference at the .01 level was found in the areas of credits are seldom lost in transfer and specialized programs admit students equally. Table 30 indicates the results of the four-year faculty survey.

Table 30

Paired Samples *t*-test for Four-Year Faculty in the Category of Evaluation

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Annual Reviews	51	-.8431	-5.754	50	.000****
Student Success	54	-.7222	-4.591	53	.000****
Credit Loss	57	-.5789	-2.727	56	.009***
Spec. Programs	51	-.3922	-3.206	50	.002***
Trans. vs Native	54	-1.1296	-6.753	53	.000****
Articulation Proc.	46	-1.2174	-7.161	45	.000****
Trans. Info. Avail.	44	-1.1364	-6.319	43	.000****

Note: *** $p < .01$. **** $p < .001$.

Evaluation issues as viewed by two-year CAOs are indicated in Table 31. No significant difference was noted between current and ideal evaluation practices in the areas of students success is a measurement of the value of the two-year instruction or transfer students do as well as native students. At the .01 level, areas of significance include credits are seldom lost in transfer and specialized programs admit students

equally. At the .001 level of significance, areas included annual reviews of transfer programs are conducted, articulation procedures are evaluated annually, and transfer information is available to two-year campuses.

Table 31

Paired Samples *t*-test for Two-Year CAOs in the Category of Evaluation

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Annual Reviews	21	-.9524	-4.483	20	.000***
Student Success	21	-.1905	-.777	20	.446*
Credit Loss	21	-1.1429	-3.677	20	.001***
Spec. Programs	19	-.6842	-3.367	18	.002***
Trans. Vs Native	21	-.3333	-1.784	20	.090*
Articulation Proc.	21	-1.7143	-6.183	20	.000***
Trans. Info. Avail.	21	-2.4286	-9.926	20	.000***

Note: * no significant difference. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Table 32 indicates the significant differences between the means in the category of evaluation as viewed by the four-year chief academic officers. The only significant difference was at the .05 level of significance regarding the view that student success at the four-year institution is considered an evaluative measurement of two-year instruction.

Table 32

Paired Samples *t*-test for Four-Year CAOs in the Category of Evaluation

Characteristic	Paired Differences				Significance (2-tailed)
	<i>N</i>	<i>M</i>	<i>t</i>	<i>df</i>	
Annual Reviews	8	-.3750	-1.426	7	.197*
Student Success	7	-.7143	-2.500	6	.047**
Credit Loss	7	-.8571	-2.121	6	.078*
Spec. Programs	7	-.1429	-.548	6	.604*
Trans. vs Native	7	-.5714	-1.549	6	.172*
Articulation Proc.	7	-.5714	-1.922	6	.103*
Trans. Info. Avail.	6	-.6667	-1.195	5	.286*

Note: * no significant difference. ** $p < .05$.

Table 33 indicates a summary of the significant differences between current and ideal interinstitutional practices as viewed by each comparison group. Two-year faculty had significant differences ($p < .001$) in all areas. Four-year faculty had similar viewpoints. Two-year and four-year CAO surveys indicated no significant difference between current and ideal practices on the statement indicating transfer students do as well as native students.

Table 33

Paired Samples *t*-test Summary of Evaluation Issues

Characteristic	Paired Differences			
	Significance (2-tailed)			
	2-yr Faculty	4-yr Faculty	2-yr CAOs	4-yr CAOs
Annual Reviews	.000****	.000****	.000****	.197*
Student Success	.000****	.000****	.446*	.047**
Credit Loss	.000****	.009***	.001***	.078*
Spec. Programs	.000****	.002***	.002***	.604*
Trans. vs Native	.000****	.000****	.090*	.172*
Articulation Proc.	.000****	.000****	.000****	.103*
Trans. Info. Avail.	.000****	.000****	.000****	.286*

Note: * No significant difference. ** $p < .05$. *** $p < .01$. **** $p < .001$.

Summary response to question four. A significant difference was determined to exist for $p < .05$. Significant differences between current and ideal articulation practices from the two-year and four-year faculty and CAO viewpoint occurred for the following statements: A common course numbering system is used between transfer institutions, representatives from business/industry are involved in curriculum development/revision for articulated occupational programs, students are aware of curriculum requirements in their major field while attending the two-year college, faculty at the two-year level visit the four-year institution, faculty at the four-year level visit the two-year institution,

advisor coordination between transfer institutions provides a communication bridge between campuses for the student, existing resources are shared between transfer institutions, programs are jointly promoted/marketed by both institutions, and facilities/equipment are shared by both institutions.

A significant difference ($p < .001$) between current and ideal practices from the viewpoint of two-year faculty, four-year faculty, and two-year CAOs occurred in the areas of leadership support, two-year faculty involvement, four-year faculty involvement, common course numbering system, grievance procedures, equivalent curriculum, requirements are known by students, two-year faculty visit four-year, four-year faculty visit two-year, shared teaching responsibilities, advisor coordination, joint promotion of programs, annual reviews, assessment of articulation procedures, and transfer information is available. The four-year CAOs indicated no significant difference between current and ideal practices in the areas of leadership support, two-year faculty involvement, four-year faculty involvement, grievance procedures, equivalent curriculum, shared teaching responsibilities, annual reviews, credit loss, specialized programs, transfer students do as well as native, articulation assessment, and availability of transfer information. Two-year and four-year faculty surveyed indicated a significant difference ($p < .001$) in every area except two (credit loss and specialized programs) in which the four-year faculty results indicated a significant difference at the .01 level of significance. Two-year and four-year CAOs didn't agree on the level of significance on any statement.

Research Question Five

Would a statewide articulation officer be a desirable addition to aid in the articulation efforts?

Student response to question five. The percentage of two-year students that indicated there was a need for a statewide official to oversee transfer issues was 68.5% while 69.6% of the four-year students perceived a need for such an official. In the "no" category, 36.3% of the two-year and 17.6% of the four-year students responded. In the "don't know" category, 12.2% of the two-year students and 12.8% of the four-year students responded.

Faculty response to question five. The percentage of two-year faculty responding with a "yes" reply to a statewide official was 44.5%, "no" was 21.9%, and "don't know" was 32.0%. The percentage of four-year faculty responding with a "yes" reply to a statewide official was 17.1%, "no" was 52.9%, and "don't know" was 27.1%.

CAO response to question five. In regard to a statewide official, two-year CAO surveys indicated that 47.8% gave a "yes" reply, 43.5% gave a "no" reply, and 8.7% indicated they did not know. Four-year CAO surveys indicated that 11.1% were in favor of a statewide official, 77.8% were not in favor of a statewide official, and 11.1% were undecided.

Comparison of the groups. The chart (Figure 1) identifies the percentages of positive responses made by each of the six sample groups responding to the question regarding the idea of a statewide articulation official to oversee the transferability of courses from two-year to four-year institutions. The case values represent the six groups in the following order: (1) two-year students; (2) four-year students; (3) two-year

faculty; (4) four-year faculty; (5) two-year CAOs; and (6) four-year CAOs. Four-year students led the groups with the highest percentage (69.6%) having 87 "yes" answers. A close second from the two-year 252 students yielded 68.5%. Two-year CAOs were third with 47.8% and two-year faculty had a positive response of 45.2%. The responses from the four-year faculty (17.6%) and four-year CAOs (11.1%) indicated that those groups didn't think a state official would be a good idea. The number of positive responses was much lower in this category than in the previous two. More than three-fourths (77.8%) of the four-year CAOs and more than half (54.4%) of the four-year faculty responded "no" to this question. At the two-year faculty level, 32.5% indicated that they "didn't know" if the state official was a good idea as did 22.3% of the two-year student sample.

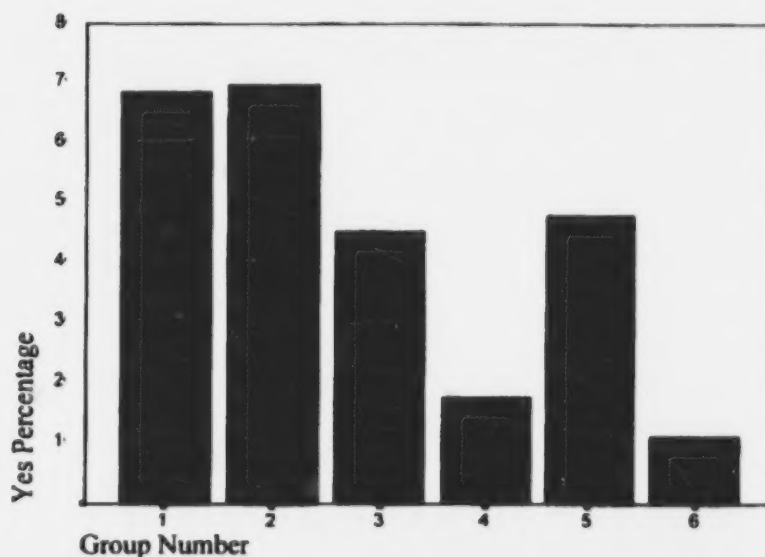


Figure 1. Need for Statewide Articulation Official

Note: 1 = two-year students. 2 = four-year students. 3 = two-year faculty. 4 = four-year faculty. 5 = two-year CAOs. 6 = four-year CAOs.

Summary response for question five. The majority of both two-year and four-year students indicated that they would like to have a statewide articulation official to oversee transfer issues. Two-year faculty and two-year CAOs were not sure about the necessity of a statewide official and the four-year faculty and CAOs clearly objected to a statewide official.

Research Question Six

Would a statewide course numbering system benefit the articulation processes in institutions of higher education?

Student response to question six. The percentage of two-year students that thought a statewide course numbering system would be beneficial was 68.3% for two-year students and 76.8% for four-year students. In the "no" category, 8.1% of the two-year and 10.4% of the four-year students responded. In the "don't know" category, 23.6% of the two-year and 12.8% of the four-year students responded.

Faculty response to question six. On the question regarding a statewide course numbering system, 82.8% of the two-year faculty responded "yes", 7.0% responded "no", and 9.4% responded "don't know." The four-year faculty responded at the rate of 61.4%, in the "yes" category, 24.3% in the "no" category, and 12.95% in the "don't know" category.

CAO response to question six. Of the 23 two-year CAOs, 21 (91.3%) were in favor of a statewide course numbering system, one (4.3%) was opposed, and one (4.3%) didn't know. Of the nine four-year CAOs, six (66.7%) were in favor of the system, one (11.1%) was opposed, and two (22.2%) didn't know.

Comparisons of the groups. The second chart (Figure 2) identifies the percentages of positive responses made by each of the six sample groups responding to the question regarding the idea of a statewide course numbering system in which courses with the same curriculum would have the same course number statewide. The case values represent the six groups in the following order: (1) two-year students; (2) four-year students; (3) two-year faculty; (4) four-year faculty; (5) two-year CAOs; and (6) four-year CAOs. Two-year CAOs led the groups with the highest percentage (91.3%) with 21 "yes" answers. Two-year faculty came in second with 83.5%, four-year students were third with 76.8%, two-year students had 68.3%, and 66.7% of the four-year CAOs indicated that it would be beneficial to have a common course numbering system. The lowest affirmative answer was the four-year faculty with 62.3%. More than half of each group indicated that there was a need for a statewide common course numbering system.

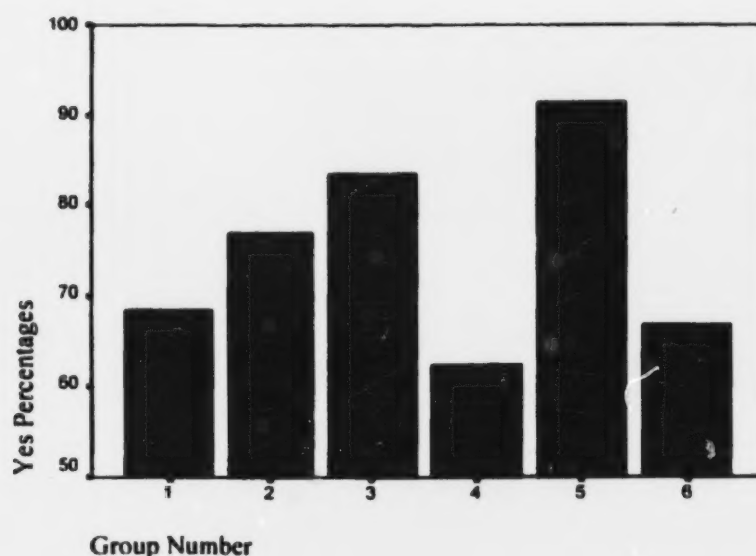


Figure 2. Need for Common Course Numbering System

Note: 1 = two-year students. 2 = four-year students. 3 = two-year faculty. 4 = four-year faculty. 5 = two-year CAOs. 6 = four-year CAOs.

Summary response for question six. The majority of students, faculty, and CAOs indicated that a statewide course numbering system would benefit the articulation processes in institutions of higher education.

Summary

This chapter included an analysis of the data provided by students and faculty in six two-year state institutions of higher education and four two-year universities. The 23 chief academic officers at the two-year level and nine at the four-year level responded to the survey from an administrative viewpoint. The survey consisted of various numbers of

questions regarding administrative issues, curriculum and instruction issues, interinstitutional relationships, evaluation issues, components of effective articulation systems, and general articulation and transfer issues. The findings revealed, in some cases, bipolar differences in agreement between the groups to certain transfer issues. In other cases, remarkable agreement was observed.

Descriptive analysis including means, frequencies, and percentages, were performed for all sections of the surveys. In addition, *t*-tests were used to compare means of current practices with means of ideal practices. It will be those components that form the foundation for conclusions and recommendations to follow in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Education should be an interconnected system where qualified students can move systematically from one educational level to another or from one institution to another without unnecessary roadblocks being put in their way. Students who enter two-year institutions need guidance as they complete their work at the two-year college and begin their major work at the four-year university. Good articulation of courses and programs saves time and money while providing a continual sequence of learning experiences to students in their chosen field of study.

This study was a descriptive study designed to collect data pertaining to the perceptions of two-year and four-year students, faculty, and chief academic officers in Arkansas public colleges regarding articulation practices and procedures. Additionally, this study was designed to determine the desired components for a successful articulation and transfer system and identify any significant differences that exist between current and ideal articulation practices. Furthermore, this study investigated the feasibility of a statewide course numbering system and an articulation officer to oversee transfer procedures.

To accomplish the goals of this study, after review of literature on articulation and transfer practices, six research questions were developed. Survey instruments, which were validated by a panel of experts in articulation (Appendix C), were designed using models from similar studies in Tennessee (Freeman, 1996) and Alabama (Wallace, 1994),

and a pilot study using a two-year and a four-year institution in Arkansas in 1999. The surveys contained questions regarding common articulation practices and policies, current perceptions about articulation and transfer, and current versus ideal articulation practices. A section of the survey for faculty and chief academic officers was designed so that respondents marked each articulation practice twice—once to reflect present practices and once to reflect ideal practices from their viewpoint. The section was divided into categories of administrative issues, curriculum and instruction issues, interinstitutional relationships, and evaluation issues. Six two-year and four four-year public institutions in Arkansas were chosen for the study. A total of 378 two-year students, 125 four-year students, 128 two-year faculty, 70 four-year faculty, and the entire population of nine four-year and 23 two-year chief academic officers responded to surveys for this study.

Basic descriptive statistics were used to compare the sample to the population and analyze the data. Paired samples *t*-tests were used to compare current articulation practices with ideal articulation practices on the faculty and CAO surveys. This chapter contains a summary of the study, conclusions reached from an analysis of the responses to surveys, and recommendations for practice and further study.

Conclusions

The conclusions of this study were the results of the six research questions dealing with articulation issues and the transfer of undergraduate credit in the state of Arkansas. In addition to the research questions, other notable conclusions emerged as a result of the surveys.

Research Question One

The first research question was concerned with the primary perceptions and concerns that students had regarding transfer procedures and articulation practices. While there was a perception that articulation agreements exist, two-year students acknowledged that credits taken at the two-year college may not transfer and a number of four-year students indicated that at least some of their credits did not transfer from the two-year institution. There was a perception that students were not being informed about the transferability of courses. Surveyed students indicated that their friends shared similar concerns about transferability. Students did not attend orientation or meet with their four-year advisor prior to transfer. Some students did not visit the transfer institution prior to transfer, and some did not obtain a four-year catalog.

Primary articulation concerns based on the student sample were: Knowing what courses to take at the four-year level, transferring without loss of credit, and obtaining financial aid at the transfer institution. A four-year plan of study would be helpful in the opinion of the majority of students.

Research Question Two

Question two focused on the types of articulation procedures that are currently being implemented in two-year and four-year public higher education institutions from the viewpoint of faculty and chief academic officers. Core curriculum, department-to-department, and course-to-course are the types of agreements that currently exist from the viewpoint of the faculty and CAOs although the core curriculum articulation, which was legislated by the state, is the only type that is consistent. Surveys indicated that faculty sometimes participate in the initiation of articulation agreements. Chief academic officers

initiate and sign agreements at the two-year level but not at the four-year level. Neither two-year or four-year CAOs indicated that there was any difficulty in getting program-to-program or other articulation agreements signed by the transfer institution. No four-year CAOs indicated that starting at a two-year college was a disadvantage for a student.

Current administrative practices included: State leadership supports the ease of transfer, faculty are involved in transfer agreements, and grievance procedures are written and available. Current curriculum and instruction practices implemented included: Curriculum requirements are the same at both levels for the same course, business and industry representatives are involved in agreements, and two-year students are aware of the four-year requirements. Faculty and CAOs agreed that the only interinstitutional relationship that exists is that two-year and four-year advisors communicate. Evaluation practices that currently exist included: Annual reviews of the transfer programs, student success is considered a measurement of the two-year instruction, credits are seldom lost in transfer, specialized programs admit students equally, transfer students do as well as native students, annual assessment of articulation procedures is conducted, and transfer information is available.

The completion of an associate degree is important to two-year CAOs, but not as important to four-year CAOs. It is perceived that specialized programs admit students equally. Four-year faculty seldom visit two-year institutions.

Four-year faculty and two-year CAOs shared the viewpoints that a common course numbering system is seldom used, faculty seldom have shared teaching responsibilities, and programs seldom are jointly promoted. Two-year faculty and two-year CAOs indicated that transfer students almost always do as well as native students.

Research Question Three

Question three related to the aspects of developing program-to-program articulation agreements that would gain the support of faculty and chief academic officers. Aspects of articulation agreements that should be included to gain the support of faculty and CAOs are listed as follows: A four-year plan of study should be developed which would indicate what courses should be taken at each institution, a statewide tracking system should be incorporated to provide information on the performance of transfer students, state leadership should support the ease of transfer, four-year faculty should be involved in articulation agreements, grievance procedures should be written and available, curriculum requirements should be the same at both the two-year and four-year levels for the same courses, two-year students should be aware of the four-year requirements at the transfer institution, two-year and four-year advisors should provide a communication bridge between campuses for the students, annual reviews and updates of each transfer program should be conducted, both transfer and native students should be equally admitted to specialized programs, transfer students should do as well in junior/senior level courses as native students, and transfer information should be available to two-year colleges to monitor the success of their students at the four-year level.

In addition, four-year faculty indicated it is important to discuss degree plans with students prior to transfer and four-year CAOs indicated that course-to-course articulation guides should be further developed. Two-year CAOs indicated that notification of four-year curriculum changes would be helpful. Another aspect considered ideally essential from the two-year viewpoint was having a common course numbering system. Two-year

faculty and two-year and four-year CAOs supported having business/industry representatives involved in curriculum development/revision for articulated occupational programs, having programs jointly supported, and viewing student success at the four-year institution as an evaluative measurement of the two-year instruction. Only two-year CAOs indicated it was essential to have two-year faculty visit four-year institutions while only four-year CAOs indicated that it was essential to have four-year faculty visit two-year institutions.

Two-year faculty were concerned about the transferability of the courses they teach. Faculty, at the two-year level, were more concerned about having transfer agreements than were four-year faculty. More two-year than four-year faculty wanted information about curriculum changes. These statistics indicated that articulation issues may be more important to two-year faculty than four-year instructors.

Two-year CAOs were more concerned about transferability of courses and getting information about curriculum changes than were four-year CAOs. However, more four-year CAOs ranked having transfer agreements and course-to-course agreements as important than did two-year CAOs. Having good communication between transfer institutions was more important to four-year CAOs than to two-year CAOs.

All the two-year and four-year CAOs indicated that a tracking system would be beneficial indicating that the current perception is that not much is being done in tracking students as they transfer from two-year to four-year institutions. In addition, four-year faculty indicated it is important to discuss degree plans with students prior to transfer and four-year CAOs indicated that course-to-course articulation guides should be further developed. Two-year CAOs indicated that notification of four-year curriculum changes

would be helpful. Another aspect considered essential from the two-year viewpoint was having a common course numbering system.

Research Question Four

Question four was developed to determine if a significant difference existed between present articulation practices and ideal articulation practices as perceived by faculty and chief academic officers. A significant difference was determined to exist for $p < .05$. Significant differences between current and ideal articulation practices from the two-year and four-year faculty and CAO viewpoint occurred for the following statements: A common course numbering system is used between transfer institutions, representatives from business/industry are involved in curriculum development/revision for articulated occupational programs, students are aware of curriculum requirements in their major field while attending the two-year college, faculty at the two-year level visit the four-year institution, faculty at the four-year level visit the two-year institution, advisor coordination between transfer institutions provides a communication bridge between campuses for the student, existing resources are shared between transfer institutions, programs are jointly promoted/marketed by both institutions, and facilities/equipment are shared by both institutions.

A significant difference ($p < .001$) between current and ideal practices from the viewpoint of two-year faculty, four-year faculty, and two-year CAOs occurred in the areas of leadership support, two-year faculty involvement, four-year faculty involvement, common course numbering system, grievance procedures, equivalent curriculum, requirements known by students, two-year faculty visit four-year, four-year faculty visit two-year, shared teaching responsibilities, advisor coordination, joint promotion of

programs, annual reviews, assessment of articulation procedures, and transfer information available. The four-year CAOs indicated no significant difference between current and ideal practices in the areas of leadership support, two-year faculty involvement, four-year faculty involvement, grievance procedures, equivalent curriculum, shared teaching responsibilities, annual reviews, credit loss, specialized programs, transfer students do as well as native, articulation assessment, and availability of transfer information. Two-year and four-year faculty surveyed indicated a significant difference ($p < .001$) in every area except two (credit loss and specialized programs) in which the four-year faculty results indicated a significant difference at the .01 level of significance. Two-year and four-year CAOs didn't agree on the level of significance on any statement.

Research Question Five

Research question five specifically addressed the issue of a statewide articulation officer to aid in the state articulation efforts. The majority of both two-year and four-year students indicated that they would like to have a statewide articulation official to oversee transfer issues. Two-year faculty and two-year CAOs were not sure about the necessity of a statewide official and the four-year faculty and CAOs clearly objected to a statewide official.

Research Question Six

Research question six addressed the need for a statewide course numbering system to benefit the articulation processes in institutions of higher education. The majority of students, faculty, and CAOs indicated that a statewide course numbering system would benefit the articulation processes in institutions of higher education.

Other Conclusions

Every public institution of higher education in Arkansas has some type of articulation agreement with transfer institutions. Students in Arkansas begin their post-secondary education at a two-year college primarily because of cost and proximity to their home. Four-year students indicated that they believed their two-year education provided the necessary foundation for junior/senior level classes at the four-year university and were pleased about their decision to begin at a two-year institution. Encouraging students to visit the four-year campus is of great importance to two-year and four-year CAOs. Faculty should expect equity in the number of advisees that transfer, notification about curriculum and articulation changes, feedback information on their transfer students, consistent communication regarding articulation issues and transferability of their courses.

Recommendations for Practice

Recommendations from this study include a continuance of work toward program-to-program articulation agreements to include four-year plans of study in which students are guaranteed transfer of credits provided that they follow the plan of study and maintain grade requirements. Since students do not attend orientations, some do not obtain a catalog, and some do not visit the transfer institution prior to transfer, broad knowledge of transferability of courses should be delivered through other means. Financial aid should be available for transfer students. Faculty advisors should become better informed about articulation and transfer procedures currently in place.

Printed and web-based material should be available for faculty and CAOs for the development of articulation agreements as well as guidelines for students to include pertinent transfer policies and procedures. Access to electronic means for sharing and storing transfer information is essential. Cooperation and communication among state leadership, institutional leadership, and faculty is an important element of successful articulation.

Business and industry representatives should be involved in curriculum development and revisions for occupational programs and to gain community support for the college.

A statewide course numbering system should be implemented for freshman and sophomore level courses to aid in transferability. Although there are areas of study which make a common numbering system a challenge, the core curriculum should be relatively consistent between institutions. It is suggested to start with the core curriculum to establish a common course numbering system and expand it to other areas where feasible.

While a statewide articulation official was viewed as necessary from only the student viewpoint, a statewide official could facilitate needed articulation agreements providing for consistency across the state. A statewide articulation official would also serve as the arbitrator for establishing a statewide course numbering system.

Section III of the faculty and CAO surveys included current practices versus ideal practices in the areas of administrative issues, curriculum and instruction issues, interinstitutional relationships, and evaluation issues. The following recommendations are offered as a result of this investigation:

Administrative Issues

1. State leadership should continue to support the ease of transfer among public colleges and universities in Arkansas.
2. Both two-year and four-year faculty should be involved in articulation agreements and should be aware of whether their courses transfer.
3. A common course numbering system should be used throughout the state where feasible.
4. Grievance procedures should be clearly written and available for students and advisors.

Curriculum and Instruction Issues

1. Curriculum requirements should be the same for the freshman/sophomore level classes whether taken at the two-year institution or the four-year institution in the same program of study.
2. Business and industry representatives should be included in articulation agreements and share in promotion and recruitment efforts for programs.
3. Two-year students should be fully aware of the requirements expected at the four-year institution prior to transfer. A guideline for procedures before and after transfer should be established and shared with students and advisors. Students should be encouraged to visit the four-year campus and make contact with their four-year advisor prior to transfer. Their two-year advisor should form the communication bridge for the student.

Interinstitutional Relationships

1. Two-year and four-year advisors should communicate on a regular basis about their shared advisees. They should assume the responsibility for helping the student transfer without loss of credit and gain awareness of four-year expectations.
2. Programs should be jointly promoted to share limited funding and to ensure unbiased acceptance into four-year programs.

Evaluation Issues

1. Annual reviews and evaluation of transfer programs and articulation agreements should be conducted and approved by chief academic officers or their designees.
2. Student success at the two-year institution should be a strong indicator for student progress at the four-year institution. Successful students at the two-year institution should be successful students at the four-year institution.
3. Credits should seldom be lost through transfer except for unacceptable grades, developmental courses, or because the student changed majors.
4. Native students should be as likely to get admitted into specialized programs as transfer students.
5. Transfer students should do as well in junior/senior level courses as native students.
6. Articulation procedures and policies should be reviewed annually, including guidelines for transfer students.
7. Transfer feedback and other information, including curriculum changes, should be available to both two-year and four-year faculty and administrators.

Recommendations for Further Study

With 23 two-year public institutions in Arkansas and a number of centers, branches, and off-sites, the number of students transferring to four-year institutions is considerable. Numerous other students are enrolled concurrently or transfer from four-year to two-year institutions. Although articulation agreements of various forms exist in every public institution in Arkansas, the majority are for core curriculum courses and not for specific programs. The agreements have not been widely available and many faculty have doubts about the transferability of courses they teach. Articulation is a process that requires a great deal of information, interinstitutional relationships, a leader who will take responsibility for the evaluation and continuation of the agreements, and written guidelines available for students, faculty, and administrators. A common database with access to transfer information is necessary to efficiently synthesize the data. It is recommended that further study should be conducted in the acceptance and feasibility of a statewide articulation officer to oversee and encourage articulation efforts in the state.

Articulation is a controversial topic. Questions of academic freedom and integrity, rigor within courses, educational levels of instructors, differences in accreditation standards, and "turf" disputes tend to complicate the issue. Articulation often involves negotiation and perseverance and is often the final work of one individual after contributions from many. It is time consuming and demanding. More study should be done on the players and roles necessary for efficient articulation practices.

Since a number of students and faculty indicated that their courses did not transfer, more investigation needs to be done to determine exactly what types of courses are not transferring. A study should be done in the technical areas to determine how

much articulation exists in typically non-transferable programs such as associate of applied science and certificate programs.

Since a large number of students are concurrently enrolled in both a two-year and four-year institution, a study should be done to see the effect that dual enrollment has on transfer. A computer network should be implemented to track dual enrolled students and gain insights on the benefits of dual enrollment.

Because financial and other costs are incurred when a two-year college student loses credit, the consideration of this cost, not only to the student and his parents, but also to the taxpayers should be studied.

Since there was such a disparity in the number of faculty advisees, further study should be conducted to see what effect having a large number of advisees is upon the advisor's ability to help a student with transfer issues.

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Appendix A

Surveys

Student Survey Two-year Institutions

Please fill out this survey form if you plan to transfer to a four-year institution.

PART I	DEMOGRAPHIC INFORMATION
1. Total credit hours completed at the end of this semester (ST1)	☐ 0-15 (1) ☐ 16-32 (2) ☐ 33-48 (3) ☐ 49-64 (4) ☐ more than 64 (5)
2. General Area of Study (ST2)	☐ English (1) ☐ Social Sciences (History, Psychology, Sociology, etc.) (2) ☐ Math/Science (3) ☐ Business/Computer Technology (4) ☐ Education (5) ☐ Arts/Humanities (6) ☐ Technical Area (7) ☐ Other (8)
3. Gender (ST3)	☐ Male (1) ☐ Female (2)
4. Age (ST4)	☐ 19 or younger (1) ☐ 20-25 (2) ☐ 26-30 (3) ☐ 31-40 (4) ☐ 41-62 (5) ☐ over 62 (6)
5. Check all courses listed that you have completed (ST5)	☐ Beginning Algebra (1) ☐ College Algebra (2) ☐ Developmental English (3) ☐ Intermediate Algebra (4) ☐ Reading (5) ☐ English I (6)
6. Indicate type of four-year college you plan to attend (ST6)	☐ In-state public university or college (1) ☐ In-state private university or college (2) ☐ Out-of-state public university or college (3) ☐ Out-of-state private university or college (4) ☐ Other (5)
7. Ethnicity (ST7)	☐ White/Caucasian (1) ☐ Asian American (2) ☐ Hispanic/Latino (3) ☐ Black/African American (4) ☐ American Indian (5) ☐ Other (6)
8. Check all reasons why you chose to begin your college career at a two-year college (ST8)	☐ Close to Home (1) ☐ Advertisement (2) ☐ Course Offerings (3) ☐ Class Size (4) ☐ Cost (5) ☐ Parental Suggestion (6) ☐ Schedule of Classes (7) ☐ On-line Courses (8) ☐ Friends (9) ☐ Friendliness of Staff (10) ☐ Quality of Services (11) ☐ Scholarships (12) ☐ Ease of Registration (13) ☐ Quality of Instruction (14) ☐ Other (15)

PART II						What is important to you?					
Least Neutral Most						Please rank by putting a check in the box in order of importance to you from 1 to 5 with 5 considered the most important to you and 1 as the least important to you at this time.					
1	2	3	4	5	Items to Consider						
					Meeting with your advisor about your courses to complete your two-year degree (ST9)						
					Transferring from the two-year campus to the four-year campus without loss of credits (ST10)						
					Visiting the four-year campus prior to transfer (ST11)						
					Understanding which courses are necessary to complete a bachelor's degree (ST12)						
					Knowing that the two-year faculty and administration communicate about transfer issues with your four-year transfer institution in your area of study (ST13)						
					Understanding what to expect at the four-year campus (ST14)						
					Obtaining financial aid assistance for your classes at the four-year institution (ST15)						

-Please continue on the back-

Two-year Student Survey

PART III			ARTICULATION INFORMATION
<i>Please check the appropriate response to the question asked.</i>			
☐ Yes	☐ No	☐ I Don't Know	Have you filled out a plan of study for your associate's degree? (ST18)
☐ Yes	☐ No	☐ I Don't Know	Do you know what courses you will need to take at the four-year level to complete your bachelor's degree? (ST17)
☐ Yes	☐ No	☐ I Don't Know	Have you visited the four-year campus? (ST19)
☐ Yes	☐ No	☐ I Don't Know	Will all of your credits transfer to the four-year institution? (ST19)
☐ Yes	☐ No	☐ I Don't Know	Do you have a catalog from the four-year institution you plan to attend? (ST20)
☐ Yes	☐ No	☐ I Don't Know	Does your two-year college have a transfer agreement with your four-year college in the area of study you are pursuing? (ST21)
☐ Yes	☐ No	☐ I Don't Know	Did you attend an orientation before you began classes? (ST22)
☐ Yes	☐ No	☐ I Don't Know	Have you taken any courses in which you have doubts about whether or not they will transfer to the four-year institution? (ST23)
☐ Yes	☐ No	☐ I Don't Know	Would it be beneficial to you to have a four-year plan of study, which would include a suggested list of courses to take each of the four years? (ST24)
☐ Yes	☐ No	☐ I Don't Know	Have any of your friends expressed concerns about their courses transferring to their four-year institutions? (ST25)
☐ Yes	☐ No	☐ I Don't Know	Would a statewide course numbering system (for example, all college algebra classes across the state would have the same identifying number) be helpful to you as a student? (ST26)
☐ Yes	☐ No	☐ I Don't Know	Do you think there is a need for a statewide official to oversee the transferability of courses from two-year to four-year institutions? (ST27)

Thank you for your participation in this survey. The results of this survey will be available in a few weeks.

Student Survey Four-year Institutions

Please fill out this survey form if you transferred from a two-year institution.

PART I		DEMOGRAPHIC INFORMATION					
1.	Total credit hours completed at the end of this semester (SP-1)	0-15 (1)	16-32 (2)	33-48 (3)	49-64 (4)	65-90 (5)	more than 90 (6)
2.	General Area of Study (SP-2)	English (1) Social Sciences (History, Psychology, Sociology, etc.) (1) Math/Science (3) Business/Computers/Technology (7) Education (2) Arts/Humanities (4) Technical Area (6) Other (8)					
3.	Gender (SP-3)	Male (1) Female (2)					
4.	Age (SP-4)	19 or younger (1) 20-25 (2) 26-30 (3) 31-40 (4) 41-62 (5) over 62 (6)					
5.	Check all courses listed that you have completed (SP-5)	Beginning Algebra (1) College Algebra (3) Developmental English (5) Intermediate Algebra (2) Reading (4) English I (6)					
6.	Ethnicity (SP-6)	White/Caucasian (1) Asian American (3) Hispanic/Latino (5) Black/African American (2) American Indian (4) Other (6)					
7.	Are you currently taking any courses at any two-year college? (SP-7)	yes (1) no (2)					
8.	Check all reasons why you chose to begin your college career at a two-year college (SP-8)	Close to Home (1) Advertisement (6) Course Offerings (11) Class Size (2) Cost (7) Parental Suggestion (12) Schedule of Classes (3) On-line Courses (8) Friends (13) Friendliness of Staff (4) Quality of Services (9) Scholarships (14) Ease of Registration (5) Quality of Instruction (10) Other (15)					

					PART II	What is important to you?
					<i>Having successfully transferred to a four-year institution, in your opinion, what should be important to students prior to transfer. Please rank by checking the box representing the importance to you from 1 to 5 with 5 considered the most important and 1 as the least important.</i>	
Least	1	2	3	4	5	Most
Items to Consider						
						Meeting with your two-year advisor about courses to complete your two-year degree (SP-9)
						Transferring from the two-year campus to the four-year campus without loss of credits (SP-10)
						Visiting the four-year campus prior to transfer (SP-11)
						Understanding which courses are necessary to complete a bachelor's degree (SP-12)
						Knowing that the two-year faculty and administration communicate about transfer issues with the four-year transfer institution in their area of study (SP-13)
						Understanding what to expect at the four-year campus (SP-14)
						Obtaining a catalog from the four-year institution (SP-15)
						Meeting with an advisor at the four-year institution (SP-16)
						Obtaining financial aid assistance for classes at the four-year institution (SP-17)

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Four-year Student Survey

PART III			ARTICULATION INFORMATION
Please check the appropriate response to the question asked.			
☐ Yes	☐ No	☐ I Don't Know	Have you filled out a plan of study for your bachelor's degree? (Q18)
☐ Yes	☐ No	☐ I Don't Know	Did all of your courses taken at the two-year campus transfer? (Q19)
☐ Yes	☐ No	☐ I Don't Know	Did you visit the four-year campus prior to transfer? (Q20)
☐ Yes	☐ No	☐ I Don't Know	Did you complete an associate's degree before you transferred? (Q21)
☐ Yes	☐ No	☐ I Don't Know	Did anyone at the two-year college visit with you about the transferability of your courses prior to registration? (Q22)
☐ Yes	☐ No	☐ I Don't Know	Did you obtain a catalog from the four-year institution you planned to attend prior to transfer? (Q23)
☐ Yes	☐ No	☐ I Don't Know	Does your two-year college have a transfer agreement with your four-year college in the area of study you are pursuing? (Q24)
☐ Yes	☐ No	☐ I Don't Know	Do you feel that your education at the two-year college provided the necessary foundation you needed to complete your work at the four-year institution? (Q25)
☐ Yes	☐ No	☐ I Don't Know	Did you attend an orientation at the two-year college? (Q26)
☐ Yes	☐ No	☐ I Don't Know	Did you attend an orientation at the four-year college? (Q27)
☐ Yes	☐ No	☐ I Don't Know	Would it have been beneficial to you to have a four-year plan of study, which would have included a suggested list of courses to take each of the four years? (Q28)
☐ Yes	☐ No	☐ I Don't Know	Have any of your friends expressed concerns about their courses transferring to their four-year institutions? (Q29)
☐ Yes	☐ No	☐ I Don't Know	Would a statewide course numbering system (for example, all college algebra classes across the state would have the same identifying number) be helpful to you as a student? (Q30)
☐ Yes	☐ No	☐ I Don't Know	If you had it to do over, would you begin your college education at the two-year college? (Q31)
☐ Yes	☐ No	☐ I Don't Know	Did you have difficulty adjusting to the differences between the two-year college the four-year institution you are now attending? (Q32)
☐ Yes	☐ No	☐ I Don't Know	Did your grade point average drop the first semester after transfer from your two-year institution? (Q33)
☐ Yes	☐ No	☐ I Don't Know	Do you think there is a need for a statewide official to oversee the transferability of courses from two-year to four-year institutions? (Q34)

Thank you for your participation in this survey. The results of this survey will be available in a few weeks.

Faculty Survey Two-year Institutions

This data will be used in a research study of articulation practices pertaining to Arkansas higher education programs. Please complete the following survey.

PART I		DEMOGRAPHIC INFORMATION					
1.	How long have you been an instructor at the two-year level? (#11)	0-2 years (1)	3-5 years (2)	6-10 years (3)	11-15 years (4)	more than 15 years (5)	
2.	General Area of Instruction (#12)	English (1)	Social Sciences (2)	Math/Science (3)	Business/Computers/ Technology (4)		
		Education (5)	Arts/Humanities (6)	Technical Area (7)	Other (8)		
3.	Gender (#13)	Male (1)		Female (2)			
4.	Age (#14)	30 or younger (1)	31-40 (2)	41-50 (3)	51-60 (4)	61-65 (5)	
		over 65 (6)					
5.	Did you attend a two-year college as a student? (#15)	yes (1)		no (2)			
6.	How many students do you normally advise each semester? (#16)	0 (1)	1-25 (2)		26-50 (3)	51-75 (4)	
				76-100 (5)		more than 100 (6)	
7.	Ethnicity (#17)	White/Caucasian (1)		Asian American (2)	Hispanic/Latino (3)		
		Black/African American (4)		American Indian (5)	Other (6)		

PART II					What is important to you?
Please rank by putting a check in the blank in order of importance to you from 1 to 5 with 5 considered the most important to you and 1 as the least important to you at this time.					
1	2	3	4	5	Items to Consider
					Meeting with your advisees to discuss degree plans (#17a)
					Transferability of the courses you teach to the four-year institutions (#17b)
					Encouraging your advisees to visit the four-year campus (#17c)
					Having transfer agreements with four-year institutions in your area of expertise (#17d)
					Visiting the four-year campus on a regular basis (#17e)
					Discussing transfer options and procedures with your advisees (#17f)
					Having a good working relationship between instructors at other institutions at the two-year level (#17g)
					Having a good working relationship between instructors at the four-year level (#17h)
					Having information about curriculum changes at the four-year institutions in the area you teach (#17i)

-Please continue-

Two-year Faculty Survey

PART III					CURRENT vs IDEAL PRACTICES					
The following statements represent general articulation practices identified by a review of literature. Please indicate if the practice currently exists for your situation and the practice as it ideally should exist. Check the box that applies on the scales from Never to Always in Current Practices and Unnecessary to Essential in Ideal Practices.										
Current Practice					Statement	Ideal Practice				
Never	Always					Unnecessary	Essential			
1	2	3	4	5		1	2	3	4	5
					State leadership supports ease of transfer among public colleges and universities in Arkansas (FT17)					
					Annual reviews and updates of each transfer program at your institution are conducted (FT18)					
					Faculty of two-year institutions are involved in transfer agreements (FT19)					
					Faculty of four-year institutions are involved in transfer agreements (FT20)					
					Faculty at the two-year level visit four-year institutions in their areas of instruction (FT21)					
					Faculty at the four-year level visit two-year institutions in their areas of instruction (FT22)					
					Student success at the four-year institution is considered an evaluative measurement of two-year instruction (FT23)					
					Curriculum requirements at the two-year level are the same as the requirements at the four-year level (FT24)					
					Credits are seldom lost through transfer from two-year to four-year institutions (FT25)					
					Faculty in articulated programs have shared teaching responsibility between institutions (FT26)					
					Representatives from business/industry are involved in curriculum development/revision for articulated occupational programs (FT27)					
					Advisor coordination between transfer institutions provides a communication bridge between campuses for the student (FT28)					
					Existing resources are shared between transfer institutions (FT29)					
					Programs are jointly promoted/marketed by both institutions (FT30)					
					Students are aware of curriculum requirements in their major field while attending the two-year college (FT31)					
					A common course numbering system is used between transfer institutions (FT32)					
					Students who began their work at the four-year institution are as likely to get admitted into specialized programs as transfer students (FT33)					
					Transfer students are as likely to do well in junior/senior level courses as students who began their work at the four-year institution (FT34)					
					Grievance procedures for transfer related problems are clearly written and available (FT35)					
					Assessment of the articulation procedures is conducted on an annual basis (FT36)					
					Transfer information is available to two-year colleges to monitor the success of their students at the four-year level (FT37)					
					Facilities/equipment are shared by both institutions (FT38)					

-Please continue-

Two-year Faculty Survey

PART IV			ARTICULATION INFORMATION
<i>Please check the appropriate response to the question asked.</i>			
☐ Yes	☐ No	☐ I Don't Know	Have you ever participated in the creation of a curriculum transfer agreement between your two-year institution and a four-year institution? (PTJ2)
☐ Yes	☐ No	☐ I Don't Know	Does your institution currently have any type of transfer agreements with four-year institutions? (FT48)
☐ Yes	☐ No	☐ I Don't Know	Have you visited the department associated with your instructional area at the four-year institution where most of your students transfer? (PTJ3)
☐ Yes	☐ No	☐ I Don't Know	Does your department have a curriculum transfer agreement with the department at the four-year institution where most of your students transfer? (FT42)
☐ Yes	☐ No	☐ I Don't Know	Do all of the courses you teach transfer? (PTJ1)
☐ Yes	☐ No	☐ I Don't Know	Do you encourage your advisees to contact an advisor at the four-year level before they leave your campus? (FT44)
☐ Yes	☐ No	☐ I Don't Know	Would you be willing to serve on an articulation committee to establish program-to-program articulation agreements between your campus and four-year institutions? (PTJ1)
☐ Yes	☐ No	☐ I Don't Know	Do you communicate with faculty teaching your courses at the four-year level? (FT45)
☐ Yes	☐ No	☐ I Don't Know	Do you use results of program assessments at your institution? (PTJ1)
☐ Yes	☐ No	☐ I Don't Know	Have you read the articulation information on the ADHE website in the section entitled "Transfer of Credit"? (FT48)
☐ Yes	☐ No	☐ I Don't Know	Would it be beneficial to you as an advisor to have a four-year plan of study, which would include a suggested list of courses to take each of the four years? (PTJ3)
☐ Yes	☐ No	☐ I Don't Know	Would you benefit from a tracking system that would give feedback to you on how your students perform at the four-year level? (PTJ3)
☐ Yes	☐ No	☐ I Don't Know	Would a statewide course numbering system in which all courses with the same curriculum would have the same course number be helpful to you as an advisor? (PTJ1)
☐ Yes	☐ No	☐ I Don't Know	Do you think there is a need for a statewide official to oversee the transferability of courses from two-year to four-year institutions? (PTJ2)

Thank you for taking time to complete this survey. Results will be available in a few weeks and will be sent to the academic affairs officers on your campus.

Faculty Survey Four-year Institutions

This data will be used in a research study of articulation practices pertaining to Arkansas higher education programs. Please complete the following survey.

PART I		DEMOGRAPHIC INFORMATION				
1.	How long have you been an instructor at the four-year level? <i>(a)</i>	0-2 years <i>(1)</i>	3-5 years <i>(2)</i>	6-10 years <i>(3)</i>	11-15 years <i>(4)</i>	more than 15 years <i>(5)</i>
2.	General Area of Instruction <i>(a)</i>	English <i>(1)</i>	Social Sciences <i>(2)</i>	Math/Science <i>(3)</i>	Business/Computers/ Technology <i>(4)</i>	
		Education <i>(5)</i>	Arts/Humanities <i>(6)</i>	Technical Areas <i>(7)</i>	Other <i>(8)</i>	
3.	Gender <i>(a)</i>	Male <i>(1)</i> Female <i>(2)</i>				
4.	Age <i>(a)</i>	30 or younger <i>(1)</i>	31-40 <i>(2)</i>	41-50 <i>(3)</i>	51-60 <i>(4)</i>	61-65 <i>(5)</i> over 65 <i>(6)</i>
5.	Did you attend a two-year college as a student? <i>(a)</i>	yes <i>(1)</i> no <i>(2)</i>				
6.	How many students do you normally advise each semester? <i>(a)</i>	0 <i>(1)</i> 1-25 <i>(2)</i>		26-50 <i>(3)</i> 51-75 <i>(4)</i>		76-100 <i>(5)</i> more than 100 <i>(6)</i>
7.	Ethnicity <i>(a)</i>	White/Caucasian <i>(1)</i> Black/African American <i>(2)</i> Asian American <i>(3)</i> American Indian <i>(4)</i> Hispanic/Latino <i>(5)</i> Other <i>(6)</i>				

PART II						What is important to you?
Least Most						<i>Please rank by checking the box representing the importance to you from 1 to 5 with 5 considered the most important to you and 1 as the least important to you at this time.</i>
1	2	3	4	5	Items to Consider	
					Meeting with your advisees to discuss degree plans <i>(a)</i>	
					Transferability of the courses from the two-year institutions <i>(a)</i>	
					Having transfer students visit you prior to transfer <i>(a)</i>	
					Having transfer agreements with two-year institutions in your area of expertise <i>(a)</i>	
					Visiting the two-year campus your transfer students attend <i>(a)</i>	
					Having a good working relationship between instructors at the two-year level <i>(a)</i>	
					Having a good working relationship between instructors at other institutions at the four-year level <i>(a)</i>	
					Having information about curriculum changes at the two-year institutions in the area you teach <i>(a)</i>	

-Please continue-

Four-year Faculty Survey

PART III		CURRENT vs IDEAL PRACTICES									
The following statements represent general articulation practices identified by a review of literature. Please indicate if the practice currently exists for your situation and the practice as it ideally should exist. Check the box that applies on the scales from Never to Always in Current Practices and Unnecessary to Essential in Ideal Practices.											
Current Practice					Statement	Ideal Practice					
Never	Frequency					Unnecessary	Essential				
1	2	3	4	5		1	2	3	4	5	
					State leadership supports ease of transfer among public colleges and universities in Arkansas. .0000						
					Annual reviews and updates of each transfer program at your institution are conducted. .0000						
					Faculty of two-year institutions are involved in transfer agreements. .0000						
					Faculty of four-year institutions are involved in transfer agreements. .0000						
					Faculty at the two-year level visit four-year institutions in their areas of instruction. .0000						
					Faculty at the four-year level visit two-year institutions in their areas of instruction. .0000						
					Student success at the four-year institution is considered an evaluative measurement of two-year instruction. .0000						
					Curriculum requirements at the two-year level are the same as the requirements at the four-year level. .0000						
					Credits are seldom lost through transfer from two-year to four-year institutions. .0000						
					Faculty in articulated programs have shared teaching responsibility between institutions. .0000						
					Representatives from business/industry are involved in curriculum development/revision for articulated occupational programs. .0000						
					Advisor coordination between transfer institutions provides a communication bridge between campuses for the student. .0000						
					Existing resources are shared between transfer institutions. .0000						
					Programs are jointly promoted/marketed by both institutions. .0000						
					Students are aware of curriculum requirements in their major field while attending the two-year college. .0000						
					A common course numbering system is used between transfer institutions. .0000						
					Students who began their work at the four-year institution are as likely to get admitted into specialized programs as transfer students. .0000						
					Transfer students are as likely to do well in junior/senior level courses as students who began their work at the four-year institution. .0000						
					Grievance procedures for transfer related problems are clearly written and available. .0000						
					Assessment of the articulation procedures is conducted on an annual basis. .0000						
					Transfer information is available to two-year colleges to monitor the success of their students at the four-year level. .0000						
					Facilities/equipment are shared by both institutions. .0000						

-Please continue-

Four-year Faculty Survey

PART IV			ARTICULATION INFORMATION
Please check the appropriate response to the question asked.			
☐ Yes	☐ No	☐ I Don't Know	Have you ever participated in the creation of a curriculum transfer agreement between your four-year institution and a two-year feeder institution? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Does your institution currently have any type of transfer agreements with two-year institutions? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Have you visited the department associated with your instructional area at the two-year institution where most of your transfer students attend? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Does your department have a curriculum transfer agreement (other than core curriculum) with the department at the two-year institution where most of your students attend? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Do all of the freshman/sophomore courses in your area transfer from the two-year college without loss of credit? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Do transfer students normally contact you prior to transfer from a two-year campus? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Would you be willing to serve on an articulation committee to establish program-to-program articulation agreements between your campus and two-year institutions? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Do you communicate with faculty teaching your courses at the two-year level? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Do you use results of program assessments at your institution? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Have you read the articulation information on the ADHE website in the section entitled "Transfer of Credit"? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Would it be beneficial to you as an advisor to have a four-year plan of study, which would include a suggested list of courses to take each of the four years including what they should take at the two-year institution? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Would you be willing to give feedback to two-year faculty on how their students perform at the four-year level? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Would a statewide course numbering system in which all courses with the same curriculum would have the same course number be helpful to you as an advisor? <i>Q270</i>
☐ Yes	☐ No	☐ I Don't Know	Do you think there is a need for a statewide official to oversee the transferability of courses from two-year to four-year institutions? <i>Q270</i>

Thank you for taking time to complete this survey. Results will be available in a few weeks and will be sent to the academic affairs officers on your campus.

Chief Academic Officer Survey Two-year Institutions

This data will be used in a research study of articulation practices pertaining to Arkansas higher education programs. Please complete the following survey.

PART I		DEMOGRAPHIC INFORMATION				
1. How long have you been a chief academic officer at the two-year level? (7)	☐ 0-2 years (1) ☐ 3-5 years (2) ☐ 6-10 years (3) ☐ 11-15 years (4) ☐ more than 15 years (5)					
2. General areas where current articulation agreements exist at your institution. (7)	☐ English (1) ☐ Education (2) ☐ Core Curriculum (3)	☐ Social Sciences (4) ☐ Arts/Humanities (5) ☐ Agriculture (6)	☐ Math/Science (7) ☐ Technical Area (8)	☐ Business/Computers/Technology (9) ☐ Other (10)		
3. Gender (7)	☐ Male (1) ☐ Female (2)					
4. Age (7)	☐ 30 or younger (1) ☐ 31-40 (2) ☐ 41-50 (3) ☐ 51-60 (4) ☐ 61-65 (5) ☐ over 65 (6)					
5. Ethnicity (7)	☐ White/Caucasian (1) ☐ Asian American (2) ☐ Hispanic/Latino (3) ☐ Black/African American (4) ☐ American Indian (5) ☐ Other (6)					
6. Did you attend a two-year college as a student? (7)	☐ yes (1) ☐ no (2)					
7. How often do you update your existing articulation agreements? (7)	☐ Have not updated (1) ☐ Update every 2-5 years (2) ☐ Update every year (3) ☐ Update every 6-10 years (4)					

PART II					What is important to you?
Least	Neutral	Most	Please rank by checking the box representing the importance to you from 1 to 5 with 5 considered the most important to you and 1 as the least important to you at this time.		
1	2	3	4	5	Items to Consider
					Offering courses that are transferable to four-year institutions (7)
					Encouraging faculty to visit their counterparts on the four-year campus (7)
					Encouraging students to visit their four-year institution prior to transfer (7)
					Having transfer agreements with four-year institutions (7)
					Training faculty to develop articulation agreements (7)
					Having course-to-course articulation guides between your college and state four-year institutions (7)
					Getting feedback on transfer students on their progress and performance at the four-year institutions (7)
					Getting notification of curriculum changes on the four-year campuses where your students transfer (7)
					Encouraging four-year faculty to visit your campus (7)
					Communication with the four-year CAO (7)

-Please continue-

Two-year Institution - CAO Survey

PART III					CURRENT vs IDEAL PRACTICES					
The following statements represent general articulation practices identified by a review of literature. Please indicate if the practice currently exists for your situation and the practice as it ideally should exist. Check the box that applies on the scales from Never to Always in Current Practices and Unnecessary to Essential in Ideal Practices.										
Current Practice					Statement	Ideal Practice				
Never	Always					Unnecessary	Essential			
1	2	3	4	5		1	2	3	4	5
					State leadership supports ease of transfer among public colleges and universities in Arkansas. <i>(71)</i>					
					Annual reviews and updates of each transfer program at your institution are conducted. <i>(72)</i>					
					Faculty of two-year institutions are involved in transfer agreements. <i>(73)</i>					
					Faculty of four-year institutions are involved in transfer agreements. <i>(74)</i>					
					Faculty at the two-year level visit four-year institutions in their areas of instruction. <i>(75)</i>					
					Faculty at the four-year level visit two-year institutions in their areas of instruction. <i>(76)</i>					
					Student success at the four-year institution is considered an evaluative measurement of two-year instruction. <i>(77)</i>					
					Curriculum requirements at the two-year level are the same as the requirements at the four-year level. <i>(78)</i>					
					Credits are seldom lost through transfer from two-year to four-year institutions. <i>(79)</i>					
					Faculty in articulated programs have shared teaching responsibility between institutions. <i>(80)</i>					
					Representatives from business/industry are involved in curriculum development/revision for articulated occupational programs. <i>(81)</i>					
					Advisor coordination between transfer institutions provides a communication bridge between campuses for the student. <i>(82)</i>					
					Existing resources are shared between transfer institutions. <i>(83)</i>					
					Programs are jointly promoted/marketed by both institutions. <i>(84)</i>					
					Students are aware of curriculum requirements in their major field while attending the two-year college. <i>(85)</i>					
					A common course numbering system is used between transfer institutions.					
					Native students are as likely to get admitted into specialized programs as transfer students. <i>(86)</i>					
					Transfer students are as likely to do well in junior/senior level courses as native students. <i>(87)</i>					
					Grievance procedures for transfer related problems are clearly written and available. <i>(88)</i>					
					Assessment of the articulation procedure is conducted on an annual basis. <i>(89)</i>					
					Transfer information is available to two-year colleges to monitor the success of their students at the four-year level. <i>(90)</i>					
					Facilities/equipment are shared by both institutions. <i>(91)</i>					

-Please continue-

Two-year Institution - CAO Survey

PART IV			ARTICULATION INFORMATION
Please check the appropriate response to the question asked.			
☐ Yes	☐ No	☐ I Don't Know	Are you the primary person responsible for initiating articulation agreements on your campus? (72)
☐ Yes	☐ No	☐ I Don't Know	Have you had any difficulty in getting agreements signed by four-year institution officials? (73)
☐ Yes	☐ No	☐ I Don't Know	Have you visited the college deans at the four-year transfer institutions your students attend? (74)
☐ Yes	☐ No	☐ I Don't Know	Do departments at your institution have curriculum transfer agreements (apart from core curriculum) with the corresponding departments at the four-year institution where most of your students transfer? (75)
☐ Yes	☐ No	☐ I Don't Know	Are any of your transfer agreements contingent upon completion of an associate's degree? (76)
☐ Yes	☐ No	☐ I Don't Know	Do you sign all transfer agreements from your institution? (77)
☐ Yes	☐ No	☐ I Don't Know	Do you encourage your faculty advisors to have their students contact an advisor at the four-year institution before they transfer? (78)
☐ Yes	☐ No	☐ I Don't Know	Have any of your students had trouble getting their courses to transfer to state four-year institutions? (79)
☐ Yes	☐ No	☐ I Don't Know	Do you encourage students to complete a degree at your institution before they transfer? (80)
☐ Yes	☐ No	☐ I Don't Know	Do you use results of your program assessments at your institution to evaluate any transfer characteristics? (81)
☐ Yes	☐ No	☐ I Don't Know	Have you read the articulation information on the ADHE website in the section entitled "Transfer of Credit?" (82)
☐ Yes	☐ No	☐ I Don't Know	Would it be beneficial to you as an academic officer to have a four-year plan of study, which would include a suggested list of courses to take each of the four years? (83)
☐ Yes	☐ No	☐ I Don't Know	Would you benefit from a tracking system that would give feedback to you on how your students perform at the four-year level? (84)
☐ Yes	☐ No	☐ I Don't Know	Would a statewide course numbering system be helpful to you as a CAO? (85)
☐ Yes	☐ No	☐ I Don't Know	Do you think there is a need for a statewide official to oversee the transferability of courses from two-year to four-year institutions? (86)

Thank you for taking time to complete this survey. Results will be available in a few weeks and will be sent to your office.

Chief Academic Officer Survey Four-year Institutions

This data will be used in a research study of articulation practices pertaining to Arkansas higher education programs. Please complete the following survey.

PART I	DEMOGRAPHIC INFORMATION
1. How long have you been a chief academic officer at the four-year level? (1)	☐ 0-2 years (1) ☐ 3-5 years (2) ☐ 6-10 years (3) ☐ 11-15 years (4) ☐ more than 15 years (5)
2. General areas where current articulation agreements exist at your institution. (2)	☐ English (1) ☐ Social Sciences (2) ☐ Math/Science (3) ☐ Business/Computers/Technology (4) ☐ Education (5) ☐ Arts/Humanities (6) ☐ Technical Area (7) ☐ Core Curriculum (8) ☐ Agriculture (9) ☐ Other (10)
3. Gender (3)	☐ Male (1) ☐ Female (2)
4. Age (3)	☐ 30 or younger (1) ☐ 31-40 (2) ☐ 41-50 (3) ☐ 51-60 (4) ☐ 61-65 (5) ☐ over 65 (6)
5. Ethnicity (3)	☐ White/Caucasian (1) ☐ Asian American (2) ☐ Hispanic/Latino (3) ☐ Black/African American (4) ☐ American Indian (5) ☐ Other (6)
6. Did you attend a two-year college as a student? (3)	☐ yes (1) ☐ no (2)
7. How often do you update your existing articulation agreements? (3)	☐ Have not updated (1) ☐ Update every 2-5 years (2) ☐ Update every year (3) ☐ Update every 6-10 years (4)

						PART II	What is important to you?
Least		Neutral		Most		Please rank by checking the box representing the importance to you from 1 to 5 with 5 considered the most important to you and 1 as the least important to you at this time.	
1	2	3	4	5		Items to Consider	
						Getting transfer students, who are accepted into programs at the four-year institution without loss of credit (3)	
						Encouraging faculty to visit their counterparts on the two-year campus (3)	
						Encouraging students to visit the four-year institution prior to transfer (3)	
						Maintaining transfer agreements with two-year institutions (3)	
						Training faculty to develop articulation agreements (3)	
						Having course-to-course articulation guides between four-year and two-year state institutions (3)	
						Getting feedback to two-year institutions on transfer students progress and performance at the four-year institutions (3)	
						Getting notification of curriculum changes on the two-year campuses that transfer students to your university (3)	
						Encouraging two-year faculty to visit your campus (3)	
						Communication with the two-year CAO (3)	

-Please continue-

Four-year Institution - CAO Survey

PART III					CURRENT vs IDEAL PRACTICES					
The following statements represent general articulation practices identified by a review of literature. Please indicate if the practice currently exists for your situation and the practice as it ideally should exist. Check the box that applies on the scales from Never to Always in Current Practices and Unnecessary to Essential in Ideal Practices.										
Current Practice					Statement	Ideal Practice				
Never	Unusual	Uncommon	Common	Always		Unnecessary	Uncommon	Common	Essential	
1	2	3	4	5		1	2	3	4	5
					State leadership supports ease of transfer among public colleges and universities in Arkansas. <i>(11)</i>					
					Annual reviews and updates of each transfer program at your institution are conducted. <i>(12)</i>					
					Faculty of two-year institutions are involved in transfer agreements. <i>(13)</i>					
					Faculty of four-year institutions are involved in transfer agreements. <i>(14)</i>					
					Faculty at the two-year level visit four-year institutions in their areas of instruction. <i>(15)</i>					
					Faculty at the four-year level visit two-year institutions in their areas of instruction. <i>(16)</i>					
					Student success at the four-year institution is considered an evaluative measurement of two-year instruction. <i>(17)</i>					
					Curriculum requirements at the two-year level are the same as the requirements at the four-year level. <i>(18)</i>					
					Credits are seldom lost through transfer from two-year to four-year institutions. <i>(19)</i>					
					Faculty in articulated programs have shared teaching responsibility between institutions. <i>(20)</i>					
					Representatives from business/industry are involved in curriculum development/revision for articulated occupational programs. <i>(21)</i>					
					Advisor coordination between transfer institutions provides a communication bridge between campuses for the student. <i>(22)</i>					
					Existing resources are shared between transfer institutions. <i>(23)</i>					
					Programs are jointly promoted/marketed by both institutions. <i>(24)</i>					
					Students are aware of curriculum requirements in their major field while attending the two-year college. <i>(25)</i>					
					A common course numbering system is used between transfer institutions. <i>(26)</i>					
					Native students are as likely to get admitted into specialized programs as transfer students. <i>(27)</i>					
					Transfer students are as likely to do well in junior/senior level courses as native students. <i>(28)</i>					
					Grievance procedures for transfer related problems are clearly written and available. <i>(29)</i>					
					Assessment of the articulation procedures is conducted on an annual basis. <i>(30)</i>					
					Transfer information is available to two-year colleges to monitor the success of their students at the four-year level. <i>(31)</i>					
					Facilities/equipment are shared by both institutions. <i>(32)</i>					

-Please continue-

Four-year Institution – CAO Survey

PART IV			ARTICULATION INFORMATION
Please check the appropriate response to the question asked.			
☐ Yes	☐ No	☐ I Don't Know	Are you the primary person responsible for articulation agreements on your campus? <i>Q12a</i>
☐ Yes	☐ No	☐ I Don't Know	Have you had any difficulty in getting agreements signed by two-year institution officials? <i>Q12b</i>
☐ Yes	☐ No	☐ I Don't Know	Have you visited the two-year transfer institutions in your area? <i>Q12c</i>
☐ Yes	☐ No	☐ I Don't Know	Do departments at your institution have curriculum transfer agreements (apart from core curriculum) with the corresponding departments at the two-year institution where most of your transfer students attend? <i>Q12d</i>
☐ Yes	☐ No	☐ I Don't Know	Are any of your transfer agreements contingent upon completion of an associate's degree? <i>Q12e</i>
☐ Yes	☐ No	☐ I Don't Know	Do you sign all transfer agreements from your institution? <i>Q12f</i>
☐ Yes	☐ No	☐ I Don't Know	Do you think it is a disadvantage for a student who intends to complete a bachelor's degree to begin their college education at a two-year institution? <i>Q12g</i>
☐ Yes	☐ No	☐ I Don't Know	Do you encourage your faculty advisors to assist students prior to transfer? <i>Q12h</i>
☐ Yes	☐ No	☐ I Don't Know	Have any of your students had trouble getting their courses to transfer from state two-year institutions? <i>Q12i</i>
☐ Yes	☐ No	☐ I Don't Know	Are transfer students accepted into specialized programs at the same rate as native students? <i>Q12j</i>
☐ Yes	☐ No	☐ I Don't Know	Do you use results of your program assessments at your institution to evaluate any transfer characteristics? <i>Q12k</i>
☐ Yes	☐ No	☐ I Don't Know	Have you read the articulation information on the ADHE website in the section entitled "Transfer of Credit"? <i>Q12l</i>
☐ Yes	☐ No	☐ I Don't Know	Would it be beneficial to you as an academic officer to have a four-year plan of study, which would include a suggested list of courses to take each of the four years including the courses taken at the two-year institution? <i>Q12m</i>
☐ Yes	☐ No	☐ I Don't Know	Would you benefit from a tracking system that would give feedback to you on how transfer students perform at the four-year level? <i>Q12n</i>
☐ Yes	☐ No	☐ I Don't Know	Would a statewide course numbering system be helpful to you as a CAO? <i>Q12o</i>
☐ Yes	☐ No	☐ I Don't Know	Do you think there is a need for a statewide official to oversee the transferability of courses from two-year to four-year institutions? <i>Q12p</i>

Thank you for taking time to complete this survey. Results will be available in a few weeks and will be sent to your office.

Appendix B

Letters of Consent

Program to Program Articulation Research Study Two-year Student

To: Two-year students intending to transfer

From: Brenda Sullivan, Doctoral Candidate

Date: August 20, 2001

I am a doctoral candidate at the University of Arkansas at Little Rock, and I need your help. To complete a doctoral degree, a dissertation that includes a study of a current issue, is necessary. For my dissertation, I have chosen a topic that will be of interest to you as you transfer to a four-year university. I am seeking information about transfer practices and concerns from two-year to four-year colleges in Arkansas. Your opinion is important because there is currently a lack of awareness about transfer issues between two-year and four-year programs in our state.

The survey will only take four minutes of your time to complete, and your input will be very valuable, not only to me as a doctoral student, but also to your institution and to transfer students across the state. Please note that your responses will be totally anonymous, and I will publish the results only in aggregate form. Your name or ID number does not appear anywhere on the survey. Your participation in this survey is completely optional, however your input is important to this study. Every participant will have available the results of the survey when the study is completed. I greatly appreciate your cooperation. You may keep this letter, but please return the completed survey to your instructor.

For more information on this project, you may contact me by e-mail at bsullivan@asun.arknet.edu. Results of the project will be posted on my personal page at the ASUN website: www.asun.arknet.edu

Program to Program Articulation Research Study Four-year Student

To: Four-year students who have transferred from a two-year college
From: Brenda Sullivan, Doctoral Candidate
Date: August 20, 2001

I am a doctoral candidate at the University of Arkansas at Little Rock, and I need your help. To complete my doctoral degree, a dissertation that includes a study of a current issue, is necessary. For my dissertation, I have chosen a topic that will be of interest to you since you transferred from a two-year college. I am seeking information about transfer practices and concerns from two-year to four-year colleges in Arkansas. Your opinion is important because there is currently a lack of awareness about transfer issues between two-year and four-year programs in our state.

The survey will only take four minutes of your time to complete, and your input will be very valuable, not only to me as a doctoral student, but also to your institution and to transfer students across the state. Please note that your responses will be totally anonymous, and I will publish the results only in aggregate form. Your name or ID number does not appear anywhere on the survey. Your participation in this survey is completely optional, however your input is important to this study. Every participant will have available the results of the survey when the study is completed. I greatly appreciate your cooperation. You may keep this letter, but please return the completed survey in the enclosed stamped envelope or if you received this via e-mail you may return it to the e-mail address listed below. You may also download the survey on the website listed below and return via e-mail.

For more information on this project, you may contact me by e-mail at bsullivan@asun.arknet.edu. Results of the project will be posted on my personal page at the ASUN website: www.asun.arknet.edu

Program to Program Articulation Research Study Two-year Faculty

To: Faculty at two-year institutions of higher education

From: Brenda Sullivan, Doctoral Candidate

Date: August 20, 2001

I am a doctoral candidate at the University of Arkansas at Little Rock, and I need your help. For my dissertation, I have chosen a topic that will be of interest to you since you teach students who will transfer from your institution to a four-year university. I am seeking information about transfer practices and concerns from two-year to four-year colleges in Arkansas. Your opinion is important because there is currently an apparent lack of awareness about transfer issues between two-year and four-year programs in our state.

The survey will take less than ten minutes of your time to complete, and your input will be very valuable, not only to me as a doctoral student, but also to your institution and to transfer students across the state. Please note that your responses will be totally anonymous, and I will publish the results only in aggregate form. Your participation in this survey is completely optional, however your input is important to this study. Every participant will have available the results of the survey when the study is completed. I greatly appreciate your cooperation. You may keep this letter, but please return the completed survey to the Academic Affairs Office at your institution.

For more information on this project, you may contact me by e-mail at bsullivan@asun.arknet.edu. Results of the project will be posted on my personal page at the ASUN website: www.asun.arknet.edu

Program to Program Articulation Research Study Four-year Faculty

To: Faculty at four-year institutions of higher education
From: Brenda Sullivan, Doctoral Candidate
Date: August 20, 2001

I am a doctoral candidate at the University of Arkansas at Little Rock, and I need your help. For my dissertation, I have chosen a topic that will be of interest to you since you teach students who have transferred from two-year institutions to your four-year university. I am seeking information about transfer practices and concerns from two-year to four-year colleges in Arkansas. Your opinion is important because there is currently an apparent lack of awareness about transfer issues between two-year and four-year programs in our state.

The survey will take less than ten minutes of your time to complete, and your input will be very valuable, not only to me as a doctoral student, but also to your institution and to transfer students across the state. Please note that your responses will be totally anonymous, and I will publish the results only in aggregate form. Your participation in this survey is completely optional, however your input is important to this study. Every participant will have available the results of the survey when the study is completed. I greatly appreciate your cooperation. You may keep this letter, but please return the completed survey to your dean's office who will forward it to the Academic Affairs Office on your institution. If you received this via e-mail, you may return it to the e-mail address listed below. If you received this in the mail, please return using the enclosed stamped envelope.

For more information on this project, you may contact me e-mail at bsullivan@asun.arknet.edu. Results of the project will be posted on my personal page at the ASUN website: www.asun.arknet.edu

Program to Program Articulation Research Study Two-Year Chief Academic Officers

To: Chief Academic Officers in institutions of higher education
From: Brenda Sullivan, Doctoral Candidate
Date: August 20, 2001

In addition to the numerous duties that we all have as chief academic officers on our campuses, I am also a doctoral candidate at the University of Arkansas at Little Rock, and I need your help. For my dissertation, I have chosen a topic that will be of interest to you since a substantial percentage of your student population includes transfer students. I am seeking information about transfer and articulation practices and concerns from two-year to four-year colleges in Arkansas. Your opinion is important because there is currently an apparent lack of awareness about transfer issues between two-year and four-year programs in our state. Since you may have participated in articulation agreements for your institution, you have opinions and expertise, which will be very valuable for this study.

The survey will take less than ten minutes of your time to complete, and your input is important, not only to me as a doctoral student, but also for your institution and for transfer students across the state. Please note that your responses will be totally anonymous, and I will publish the results only in aggregate form. Your participation in this survey is completely optional, however your input is important to this study. Every participant will have available the results of the survey when the study is completed. I greatly appreciate your cooperation. Please return the completed survey, which is included in a second attachment, via e-mail to the AATYC office. The office will confirm which surveys have been received and will send me the surveys with no e-mail addresses on them so your response will remain confidential. If you received this in the mail, please use the enclosed envelope to return the survey.

For more information on this project, you may contact me by e-mail at bsullivan@asun.arknet.edu. Results of the project will be posted on my personal page at the ASUN website: www.asun.arknet.edu

Program to Program Articulation Research Study Four-Year Chief Academic Officers

To: Chief Academic Officers in institutions of higher education
From: Brenda Sullivan, Doctoral Candidate
Date: August 30, 2001

In addition to the numerous duties that we all have as chief academic officers on our campuses, I am also a doctoral candidate at the University of Arkansas at Little Rock, and I need your help. For my dissertation, I have chosen a topic that will be of interest to you since a substantial percentage of your student population includes transfer students. I am seeking information about transfer and articulation practices and concerns from two-year to four-year colleges in Arkansas. Your opinion is important because there is currently an apparent lack of awareness about transfer issues between two-year and four-year programs in our state. Since you may have participated in articulation agreements for your institution, you have opinions and expertise, which will be very valuable for this study.

The survey will take less than ten minutes of your time to complete, and your input is important, not only to me as a doctoral student, but also for your institution and for transfer students across the state. Please note that your responses will be totally anonymous, and I will publish the results only in aggregate form. Your participation in this survey is completely optional, however your input is important to this study. Every participant will have available the results of the survey when the study is completed. I greatly appreciate your cooperation. Please return the completed survey in the enclosed stamped envelope.

For more information on this project, you may contact me by e-mail at bsullivan@asun.arknet.edu. Results of the project will be posted on my personal page at the ASUN website: www.asun.arknet.edu

Appendix C
Expert Information

Experts Used to Evaluate the Survey Instruments

Dr. Ed Franklin
Executive Director
Arkansas Association of Two-Year Colleges
Arkansas Department of Higher Education
114 East Capitol
Little Rock, AR 72201-3818

Ron Harrell
Assistant Director for Planning and Accountability
Arkansas Department of Higher Education
114 East Capitol
Little Rock, AR 72201-3818

Dr. Steve Floyd
Deputy Director for Academic Affairs
Arkansas Department of Higher Education
114 East Capitol
Little Rock, AR 72201-3818

Dr. Robert Johnston
Associate Director
Arkansas Department of Higher Education
114 East Capitol
Little Rock, AR 72201-3818

Dr. Newton Suter
Professor of Statistics
University of Arkansas at Little Rock
2801 South University Avenue
Little Rock, AR 72204-1099

Dr. Kathryn C. Jones
Director of Institutional Research and Planning
Arkansas State University
P.O. Box 790
Jonesboro, AR 72467-0790

Appendix D
Institutional Review Board Requests

U·A·L·R

Institutional Review Board Request

Instructions: Complete the form below. Attach your research protocol, letter of consent, and any survey or interview forms. The research protocol should address the following:

- Purpose of the study
- Research questions to be answered
- Description of sample population and how it will be obtained
- How data will be collected
- What the hypotheses of the study are
- Definition of both the dependent and independent variables

Title of Project: Program to Program Articulation: Progress, Perceptions,

Principal Investigator: Brenda Sullivan

(Person conducting the research)

Department: Dept. of Educational Leadership

Telephone Number(s): (501) 833-0901

If the researcher is a student please provide the name and department of the faculty sponsor: Dept. of Educational Leadership - Dr. Gary Chamberlin,

Signature of Principal Investigator:

(Signature) _____
E-mail bsullivan@asun.arknet.edu

08/09/2001

(Date)

Signature of Faculty Sponsor /Advisor (Required if PI is a student):

(Signature) _____
E-mail gdchamberlin@ualr.edu

08/09/2001

(Date)

Please submit this request electronically if possible. If not, please type clearly.

Submit this request to :

Sue Keehn, Associate Director
Office of Research & Sponsored Programs
sjkeehn@ualr.edu
569-8474

U·A·L·R

MEMORANDUM

TO: Brenda Sullivan, Higher Education
Gary Chamberlin, Higher Education

CC: Sue Keehn, Office of Research and Sponsored Programs (ORSP)

FROM: Jim Vander Putten, Chair
UALR Institutional Review Board

DATE: August 17, 2001

RE: IRB Proposal

Thank you for submitting Institutional Review Board Outline for Request for the research project titled "Program to program articulation: Progress, perceptions, and procedures for articulation from two-year programs to four-year programs."

It has been determined that 1) informed consent will be acquired, 2) participation is voluntary, 3) there are no undue risks of psychological harm, 4) no deception is involved, and 5) appropriate assurances have been taken to ensure confidentiality of the data.

There are no risks to human subjects, and this project is approved. Please feel free to contact me (jvputten@ualr.edu, 501.569.3572) if you have questions about this. Best wishes with your research.

Appendix F

Date Received in Office: _____

IRB #: _____

APPLICATION FOR EXEMPTION

Exemption applies only to research with minimal risk. It does not apply to research involving prisoners, children or other vulnerable categories of subjects (see IX A-C). Final determination as to whether a research project is exempt further review rests with the IRB. If the project is determined to be exempt by the IRB, the principal investigator is still required to submit any project modifications to the IRB. *The exempt status does not necessarily mean that the investigator is exempt from informed consent requirements.*

Date 10-4-01

Investigator(s) Brenda Sullivan, doctoral student at UALRIf Student, Advisor=s Name Dr. Gary Chamberlin - UALR _____ Phone 501-758-1959UCA Address (of Advisor if a student) not at UCA _____ Phone _____Department UALR Educational Leadership _____ College UALR College of EducationProject Title Program to program articulation: Progress, perceptions, and procedures for articulation from two-year programs to four-year programsAnticipated dates of project: Beginning: August 17, 2001 _____ Ending: October 22, 2001 _____

FUNDING: Anticipated source of funds, if any, including UCA Research Funds. (If this project will be funded under a grant to another investigator, please give the title of the grant, name of agency or institution, and the investigator=s name.)

RESEARCH CATEGORIES OF EXEMPTION FROM FURTHER IRB REVIEW

Research activities in which the only involvement of human subjects will be in one or more of the following categories are usually exempt from further IRB review. *Check all that apply to your research study.*

- ☐ A. Research conducted in established or commonly accepted educational settings, involving normal education instruction practices, such as
- ☐ (1) research on regular and special education instruction strategies, or
 - ☐ (2) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- ☐ B. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, *unless*:
- ☐ (1) information obtained will be recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
 - ☐ (2) any disclosure of the human subjects= responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects= financial standing, employability, or reputation.
- ☐ C. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph B.(2) of this section, *if*:
- ☐ (1) the human subjects are elected or appointed officials or candidates for public office; or
 - ☐ (2) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

Appendix F - 2

- ☒ D. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if:
- ☐ (1) the sources are publicly available, or
 - ☒ (2) the information will be recorded by the investigator in such a manner that subjects *cannot* be identified, directly or through identifiers linked to the subjects.
- ☐ E. Research and demonstration projects which are conducted by or subject to the approval of Department or Agency heads, and which are designed to study, evaluate, or otherwise examine:
- ☐ (1) public benefit or service programs;
 - ☐ (2) procedures for obtaining benefits or services under those programs;
 - ☐ (3) possible changes in or alternatives to those programs or procedures; or
 - ☐ (4) possible changes in methods or levels of payment for benefits or services under those programs.
- ☐ F. Taste and food quality evaluation and consumer acceptance studies, if:
- ☐ (1) wholesome foods without additives are consumed or
 - ☐ (2) a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

Note: If you have checked B (1) and B (2) your research is not exempt from IRB review. You must apply for full or expedited IRB review.

SUBJECT INFORMATION: Use N/A if rather than leaving a blank space.

Subjects: Total # 50 students, 30 faculty, 1 CAO Age or age range:

Source of subjects or existing data: students who have transferred from a two-year institution, any faculty member who teaches undergraduate courses

What is required of a subject: To fill out an opinion survey. The student survey takes 4 minutes, the faculty & CAO survey takes 7 minutes.

Informed Consent? ☐ NO ☒ YES (attach copy) ☐ Not Applicable

Will you retain any: Identifiers? ☒ NO ☐ YES Demographic data? ☐ NO ☒ YES (If yes, list)

Demographic data is retained in aggregate form obtained from the surveys.

How will confidentiality/privacy be maintained if identifiers are contained in the data? The survey contain no identifies to individuals and all information will be reported in aggregate form. All names and addresses will be destroyed upon completion of the project. Survey forms will be secured in a safe location for a period of three years after the dissertation is completed.

Location of research (if not at UCA, obtain documented permission and attach copy): UCA is one of 5 four-year institutions in the state. There are 6 two-year institutions in the study, 23 two-year CAOs, and 10 four-year CAOs.

An informed consent COVER LETTER (or telephone introduction script) addressed to the participants must accompany any survey or questionnaire. The cover letter or telephone script must include the following. If certain elements are left out, justify why this is necessary. See Appendix H for an Informed Consent Cover Letter Template.

- a. A statement that the project is research being conducted for . . . (a paper or presentation or in partial fulfillment of

- the requirements for a course, thesis, independent study, etc.).
- b. A comprehensive though succinct description of the study in narrative form.
 - c. A statement that subjects' response will/will not be kept anonymous or confidential (explain extent of confidentiality if subjects' names are requested).

Appendix F-3

- d. If audio taping, a statement that the subject is being audio taped (explain how tapes will be stored or disposed of during and after the study).
- e. A statement that subjects do not have to answer every question.
- f. If applicable, a statement that the subject's class standing, grades, or job status (or status on an athletic team) will not be affected by refusal to participate or by withdrawal from the study.
- g. A statement that participation is voluntary.
- h. A question directly asking the subject if he/she agrees to participate in the study.

Attachments:

- ☒ questionnaire/survey, script, etc. to be used with subjects
- ☒ consent agreement, cover letter/telephone introductory script or justification for waiver
- ☒ permission to use existing data and/or permission from external institution (if applicable)

INVESTIGATOR AGREEMENT

I verify that risks to subjects are minimal. I agree to ensure that the rights and welfare of human subjects in my research are properly protected.

I understand that additions or changes in the procedures involving human subjects or any problems with the rights or welfare of the human subjects must be promptly reported to the Research Compliance Coordinator.

I further understand that **subject data and research records must be maintained in a secure and safe location for a period of at least three (3) years** after the research is completed. The original data will be provided to the IRB if so requested.

Barbara L. Sullivan
Signature of Investigator

10-4-01
Date

Signature of Investigator

Date

Signature of Advisor (if student research)

Date

AFTER COMPLETING THESE FORMS, RETURN THE ORIGINAL AND ONE (1) COPY OF THESE MATERIALS AND ALL ATTACHED DOCUMENTS TO:

Research Compliance Coordinator
University of Central Arkansas
Sponsored Programs, Library 308
201 Donaghey Avenue
Conway, Arkansas 72035-0001



201 Donaghey Avenue
Conway, Arkansas 72015-0001
Telephone: 501-454-4451
Fax: 501-454-5129

Date: October 5, 2001

UCA IRB #: IRB/01-099

Title: **Program to program articulation: Progress, perceptions, and procedures for articulation from two-year programs to four-year programs**

Investigators: **Brenda Sullivan (UALR PhD Student)**

Dear Ms. Sullivan:

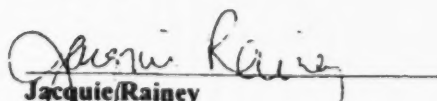
As a member of the UCA Institutional Review Board (IRB), I have reviewed your request for exemption from further IRB review.

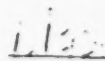
I find the proposal meets the requirements of an exemption from further review and is in compliance with protecting the rights of human subjects and the policies and procedures of the University of Central Arkansas.

You may proceed with the research. **Any changes to the original protocol must be submitted for approval prior to implementation.** Also, the Research Compliance Office must be informed of any adverse reactions or harm incurred by subjects as a result of participating in the research. Follow all policies and procedures of the University of Central Arkansas in conducting the research.

Please consider this letter as documentation of exemption from further IRB review for this research project.

Sincerely,


Jacquie Rainey
Chairperson, IRB


Date

c: Research Compliance Coordinator

Appendix E

Data on Institutions Used in the Study

Appendix E

Table 34

Institutions of Higher Education and Number of Participants in the Survey

Institution	Students Sent	Students Returned	Faculty Sent	Faculty Returned
PTC	200	101	70	43
ASUN	50	32	20	16
UACCB	50	31	25	8
ASUB	200	114	30	15
SEARK	50	18	50	30
UACCM	150	82	30	16
Total 2-yr	700	378	225	128
ASU	100	31	30	18
UALR	100	21	30	20
HSU	100	30	30	10
UCA	100	43	30	22
Total 4-yr	400	125	120	70
TOTAL	1100	503	345	198



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Office of Educational Research and Improvement (OERI)
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Author(s): Brenda L. Sullivan	
Corporate Source:	Publication Date: May 2002

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Signature: <i>Brenda L. Sullivan</i>	Printed Name/Position/Title: Brenda L. Sullivan, Vice Chancellor for Academic Affairs				
Organization/Address: Arkansas State University - Newport	<table border="1"> <tr> <td>Telephone: 479.524.7841</td> <td>FAX: 479.524.7841</td> </tr> <tr> <td>E-Mail Address: bsullivan@asun.edu</td> <td>Date: 9-17-03</td> </tr> </table>	Telephone: 479.524.7841	FAX: 479.524.7841	E-Mail Address: bsullivan@asun.edu	Date: 9-17-03
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